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EXECUTIVE BRANCH OF THE GOVERNMENT

APPENDIX J

REPORT OF THE
SUBCOMMITTEE ON MEDICAL RESEARCH
COMMITTEE ON FEDERAL MEDICAL SERVICES

Alfred N. Richards, Ph. D.
O. H. Perry Pepper, M. D.
A. Raymond Dochez, M. D. Advisor

November 1948

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U. S. COMMISSION ON ORGANIZATION OF THE
" " EXECUTIVE BRANCH OF THE GOVERNMENT
Committee on Federal Medical Services.

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TABLE OF CONTENTS

FEDERAL RESEARCH IN THE MILITARY AGENCIES

Page

Army..... 3
Navy..... 4
Air Force..... 5
Quartermaster Corps..... 6
Chemical Corps..... 6
Committee on Medical Sciences of the Research & Development Board..... 7

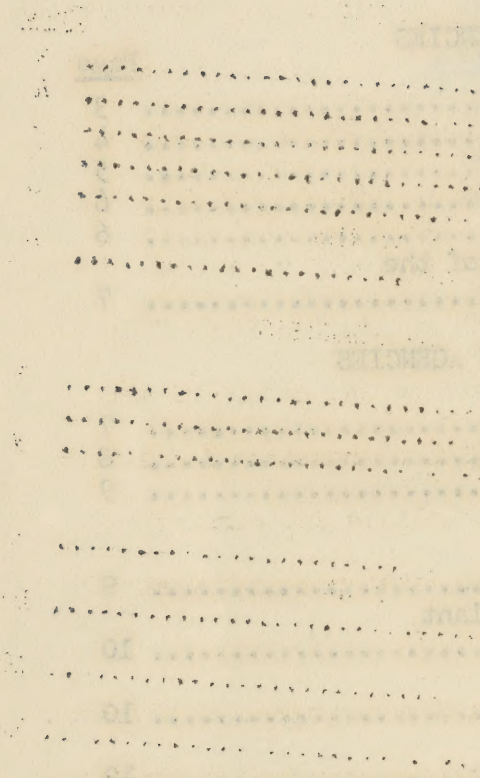
MEDICAL RESEARCH IN THE NON-MILITARY AGENCIES

Veterans Administration..... 7
Public Health Service..... 8
Atomic Energy Commission..... 9
Department of Agriculture

Bureau of Animal Industry..... 9
Bureau of Entomology and Plant Quarantine..... 10

GENERAL CONSIDERATIONS..... 10

RECOMMENDATIONS..... 12



REPORT OF THE
SUBCOMMITTEE ON MEDICAL RESEARCH
COMMITTEE ON FEDERAL MEDICAL SERVICES

The question whether medical research, conducted by or through the agency of Federal departments, is necessary or desirable can be answered categorically in the affirmative. All of the agencies which we shall consider have broad responsibilities for the health, efficiency and medical care of many people. They are confronted with a host of difficult questions which can only be solved by continuing medical research, conducted both within the Federal installations where knowledge of the existence and nature of the problems is most intimate, and in the medical research facilities of the universities, medical schools, hospitals and research institutes throughout the United States. That research must not only be continued but expanded.

Governmental medical research is being conducted or financed by a multiplicity of Federal agencies through programs which have recently undergone great expansion and are largely mutually independent. Our task is to study the programs themselves and to examine the organizations through which they are conducted with a view to the discovery of changes calculated to increase the appropriateness of the programs and the effectiveness and economy of their conduct.

Two recommendations of broad import have emerged from this study, which, for the sake of clarity, should be stated at the outset.

First: The creation of a new department of the Government, designated by such a title as Department of Health, Education and security, in which, by merger of the administrative responsibilities for medical care in the general hospitals of Army, Navy, Veterans Administration, and Public Health Service, opportunity will be provided for better correlation of the medical research efforts within those hospitals; also, through the Division of Education and Research of the new organization, correlation with the medical research of other Government agencies and with that of the Nation as a whole will be facilitated.

Second: The early creation of a National Science Foundation is a vitally important matter if the medical needs of the armed forces as well as of the civilian population are to be met. In peace, the medical needs of the armed forces comprise only a small fraction of the medical needs of our population; in war those needs are tremendously expanded and can be satisfied only by the transformation of a large section of civilian medicine into military medicine. The quality of military medicine during war depends so essentially upon the pre-existing status of civilian medicine that the continuing advancement of civilian medicine through education and research is a prime necessity for national security. That advancement requires the impetus and support which the contemplated National Science Foundation would give.

In what follows, therefore, the assumption is implicit that a unified health administration under a new Federal department will be created and that a bill establishing the National Science Foundation

will be passed.

The agencies which are our chief concern are the Army (Medical, Quartermaster and Chemical Corps), Navy (Bureau of Medicine and Surgery and Office of Naval Research), the Veterans Administration, the Public Health Service, the Atomic Energy Commission, and the Department of Agriculture. The medical research program of the Public Health Service has been greatly expaneded since the end of World War II; the reorganization of the medical service of the Veterans Administration has introduced a broad program of medical research; the Office of Naval Research and the Atomic Energy Commission, both having large programs of medical research, have come into being since 1945. To indicate the present magnitude of the Federal effort in medical research, a table of expenditures and budgets has been compiled (Table I).

MEDICAL RESEARCH IN THE MILITARY AGENCIES

ARMY The Surgeon General's responsibility for medical research is discharged by the representatives of his office who constitute the Army Medical Research and Development Board (AMRDB). It consists of a full-time chairman, the chiefs of six divisions, the air and the ground surgeons, and the president of the Army Epidemiological Board (AEB.) Under the Surgeon General, the AMRDB has full authority for planning, supervising and review of research programs in army hospitals and installations and for research contracts with non-governmental institutions. In the field of infectious diseases, it is assisted by the Army Epidemiological Board with its eight special commissions made up of outstanding civilian medical investigators.

The research programs and projects of the AMRDB are submitted for advice and review to the committees of the Division of Medical Sciences of the National Research Council which were organized to assist the Surgeons General of Army and Navy, and the Chief Medical Director of the Veterans Administration.

The research programs are closely related to military medical problems.

The research budget of the AMRDB is almost equally divided between the work of the Army medical installations and that conducted under contracts in non-governmental institutions.

NAVY Two organizations are responsible for Navy medical research, the Bureau of Medicine and Surgery under the Surgeon General, and the Medical Division of the Office of Naval Research (ONR), which reports to the Secretary of the Navy and the Chief of Naval Operations. The former, Bureau of Medicine and Surgery, conducts the medical research programs carried on within the naval facilities, directed at the solution of problems, both immediate and long-range, of direct importance for naval personnel and operations. The planning group consists of the Chief of the Research Division and the heads of the six medical branches, with liaison representation from the Office of Naval Research, the National Research Council, the Army, and the Air Force. It conducts no program of contracts with non-governmental institutions but transfers funds to ONR for processing such contracts as are deemed necessary to supplement the work of the facilities.

The Office of Naval Research, Medical Division, is responsible for the conduct of a large program of contracts with non-governmental institutions designed for broad increase in scientific knowledge which may bear only indirectly upon problems specific to the Navy. It is explicitly charged with the duty of coordinating the programs and projects of medical research throughout the Navy. The selection of grants is made by the Chief of the Medical Research Division, aided by the heads of the eight branches of the Division, by specially appointed panels of civilian experts, and by the committees of the National Research Council. We are told informally that it was designed to effect, ad interim, the medical research purposes of the National Science Foundation as envisaged at the time of the creation of ONR (August 1, 1946).

THE AIR FORCE. By agreement, the research problems related to the general medical care of Air Force personnel are the responsibility of the Surgeon General of the Army. Those for which the Air Surgeon retains responsibility are related to the selection, classification and efficiency of Air Force personnel and the physiological and psychological problems of altitude and combat flying. In the planning and review of medical research programs, the Air Surgeon has assistance from the Air Force Science Advisory Group, the National Advisory Committee on Aeronautics and from the National Research Council Committees on Aviation Medicine, Aviation Psychology and the Armed Forces-NRC Vision Committee.

THE QUARTERMASTER CORPS. Medical research under the Quartermaster General is almost exclusively directed at the practical problems of food, clothing and protective devices and hence is not regarded as coming within the scope of this report.

THE CHEMICAL CORPS. The Chemical Corps conducts medical research activities at the Army Chemical Center at Edgewood Arsenal, Md., and at Camp Detrick at Frederick, Md.

Medical research at Edgewood is directed at problems of chemical warfare and is conducted under three branches—toxicological, clinical research, and bio-analytical. Its concern is the hazards to personnel and animals arising from the use of chemical agents in warfare; the toxicity of such agents, their mode of action and prophylactic and curative measures against them; and the physiology, pharmacology and pathology of the action of chemical warfare agents.

The Chief of Medical Research of the Chemical Corps is assisted in the planning and supervision of his program by a staff of highly qualified scientific consultants, by the Committee on Toxicology and the committees and subcommittees of the Chemical-Biological Coordination Center of the National Research Council. The actual research on medical problems of chemical warfare is largely conducted in the laboratories at Edgewood, no appropriation for a program of contracts with non-governmental institutions having been made for the fiscal year 1949.

Medical research at Camp Detrick is highly classified and will not be discussed in this report.

COMMITTEE ON MEDICAL SCIENCES OF THE RESEARCH AND DEVELOPMENT BOARD

This Committee, recently established, consists of three civilian medical scientists, one of whom is chairman of the Committee, and two representatives of each of the three military services. The Committee is supplemented by similarly constituted panels, having cognizance of specialized areas. It has continuing duties of maintaining intimate familiarity with the medical research programs and projects of the three services, conducted both within and outside of service installations and facilities, of coordination of research programs, elimination of undesirable duplications, discovery of gaps in the programs and means of filling them, cognizance of research programs of the non-military Federal agencies, and of trends in the advance of medicine throughout the world. The Committee has been in existence for only a few months but gives every promise of increasing greatly the effectiveness and economy of the entire military medical effort.

MEDICAL RESEARCH IN THE NON-MILITARY AGENCIES

VETERANS ADMINISTRATION. The medical research program is planned and administered by the Research and Education Service. The plan inaugurated and promoted by Hawley and Magnuson, whereby 62 of the Veterans Hospitals, through the Deans' Committees, are associated with non-governmental medical centers, is ideally calculated not only to provide hospitalized veterans with the highest quality of medical care but also to make the best posible use of the opportunities which those hospitals afford for clinical medical research. The chief of the Office of Education and Research is assisted in the

planning and review of major programs of research, both within Veterans Administration hospitals and through grants, by the Committee on Veterans Medical Problems and other Committees of the National Research Council, and by specially appointed expert consultants.

THE PUBLIC HEALTH SERVICE. The provisions of Public Law 410 give to the Public Health Service the responsibility for conducting research on any and every problem connected with diseases and the physical or mental impairments of man. In the fields of cancer, mental health, and cardiovascular disease it has specifically defined responsibility for actual conduct of research in its own installations and for the promotion of research, training, and education in non-governmental agencies.

The Public Health Service conducts an extensive and expanding program of grants-in-aid, closely related to its legal responsibilities for advancing general medical knowledge as well as that in the three fields specified above. In the planning and review of these programs the Surgeon General and his staff have the assistance of advisory councils appointed by the Surgeon General, and these in turn of study sections, 21 in number, made up of investigators and experts drawn from widely distributed non-governmental institutions. The system is calculated to provide the Surgeon General with the best scientific advice available in the United States.

The responsibilities and the opportunities for research within the Public Health Service are soon to be enlarged by the construction of hospitals primarily designed for clinical research. Information

is not available concerning the organization planned for the effective use of these facilities.

THE ATOMIC ENERGY COMMISSION. Public Law 585 directs the Atomic Energy Commission to conduct research and to assist research by private or public institutions or persons relating to the utilization of fissionable and radioactive materials for medical, biological, health or military purposes. Self-conducted research in biology and medicine is carried on largely in the Government laboratories at Oak Ridge, Brookhaven, and Chicago. The contractual program of biological and medical research in non-governmental institutions is planned and reviewed by the Washington headquarters staff, most of the contracts, however, being conducted through the organization of the Office of Naval Research. The research program has guidance from an Advisory Committee on Biology and Medicine, consisting of seven highly competent authorities drawn from non-governmental institutions. The current program includes cancer research both in the national laboratories and in private institutions. The Commission supports an extensive program of study of atomic casualties in Japan conducted for it by the National Research Council.

THE DEPARTMENT OF AGRICULTURE. The Bureau of Animal Industry and the Bureau of Entomology and Plant Quarantine are the two divisions which chiefly relate the Department of Agriculture with other Government agencies concerned with research on problems of human medicine. The Bureau of Animal Industry conducts research on animal diseases, a number of which are also diseases of man. Its work is conducted in

the laboratories of the Department at Beltsville, Maryland; Ames, Iowa; Salina, Utah; Auburn, Alabama; and East Lansing, Michigan. It also works in cooperation with the various state experiment stations. The ex officio membership of the Chief of the Bureau in the National Advisory Health Council of the Public Health Service provides cognizance and liaison between the two organizations.

The Bureau of Entomology and Plant Quarantine has important relations with problems of human medicine through its interests in insect vectors of disease. It conducts the Orlando Experiment Station in which important contributions to the study of epidemic typhus were made during the war; also stations in Alaska and Canada for study of control of mosquitoes and the black fly.

GENERAL CONSIDERATIONS

The following general considerations are basic to an examination of the more specific problems with respect to medical research by Government agencies, either conducted directly or financed in non-governmental institutions, and to underlie the problem of organization.

1. Wherever there is broad responsibility for medical care there is associated responsibility for medical research. Standards of medical care are the results of medical research. Advance in those standards requires ever-continuing medical research. The responsibilities assumed by Federal agencies for medical care include, therefore, a comparable heavy responsibility for the support of medical research.

2. Competently trained physicians are a national necessity. In war this is especially true since the many fold expansion of the

medical corps of the armed services must be accomplished by the induction of thousands of civilian physicians. The national security, therefore, with respect to the quality of wartime medical service is essentially dependent upon the quality of civilian medicine.

3. The training of physicians is not and should not be a Government responsibility. It is part of the educational system of the entire country and the diversity of minds of the entire country is required for the development of an adequate system of medical training.

4. The competent training of physicians must be closely associated with intensive and continuing research. The 78 medical schools of this country are centers of medical research, as are also the scientific departments of their parent universities. It is in these institutions that young minds having research capacities are identified and encouraged. They become a reserve of future investigators whose support, training and development is of especial interest to the Government. It is an essential obligation of Government to cooperate with these centers in which the training of medical investigators is in progress. The fullest possible mutual understanding between the Federal agencies and non-governmental institutions of the problems and of the capacities of each must be developed.

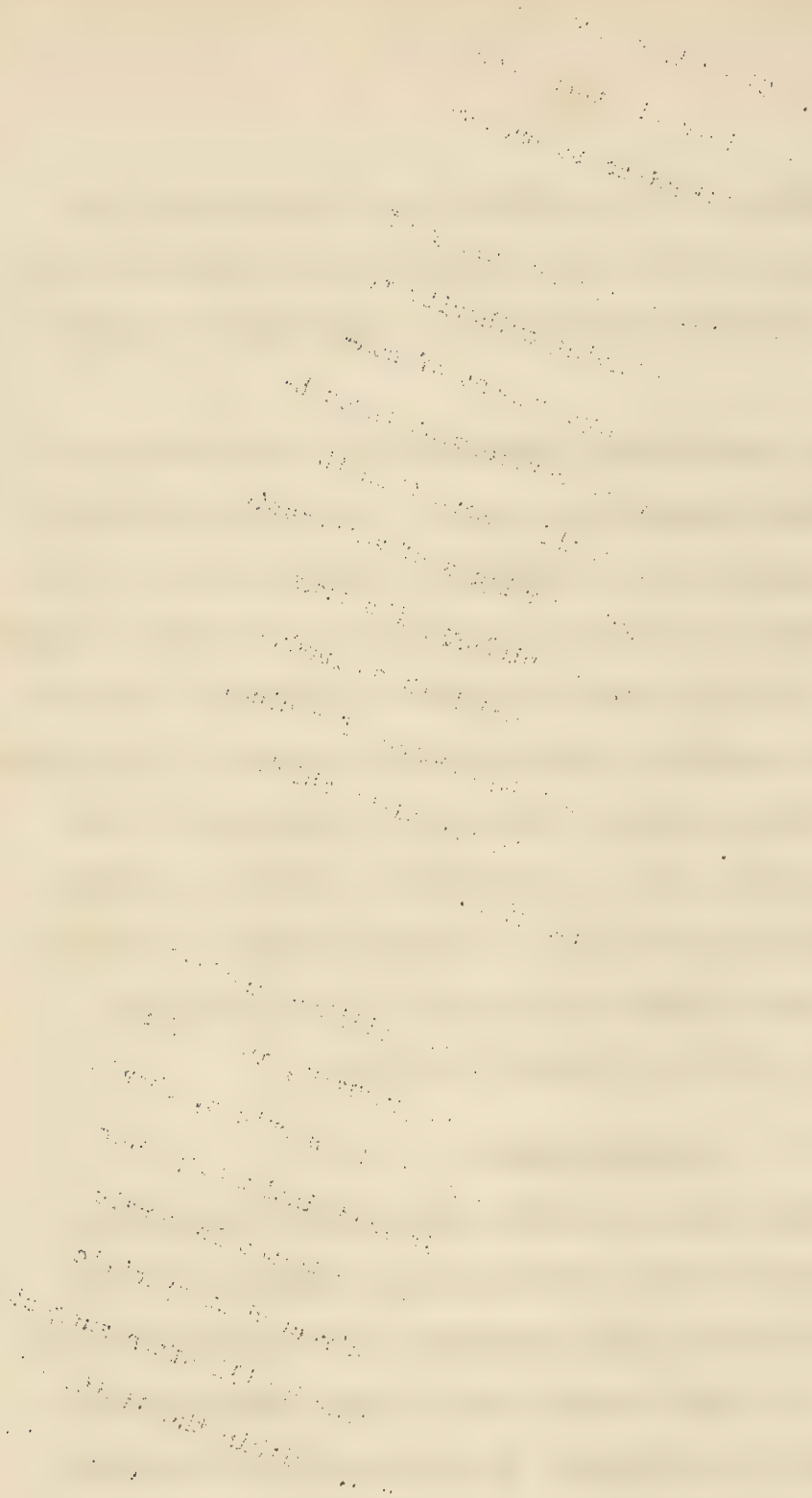
5. The dearth of competent medical investigators, both within and without the Government agencies, is everywhere recognized. The present system of support of research in non-governmental insitutions by contracts and grants-in-aid from several separate Government agencies does not satisfactorily solve the problem of strengthening the training

and research capacities of those institutions. Since they are the source from which the Government must obtain the investigators needed for its research, Government should help the institutions to produce them.

6. The above considerations point directly to the necessity of establishing a Federal organization competent and having authority to plan and direct a program for the utilization and improvement of non-governmental resources for medical research and its development throughout the country. And since medical research is nothing more than the application of the conceptions, instruments and techniques of mathematics and the natural sciences, physics, chemistry, and biology, its true development must proceed in those institutions in which these fundamental disciplines are cultivated. This inter-dependence of medical science and the natural sciences is recognized in the plans which have been drawn for a National Science Foundation.

RECOMMENDATIONS

1. The autonomy which now exists within the military medical services with respect to their medical research programs, in so far as those are related to the primary functions of the services, should not be lessened. The staff of each service is most intimately aware of its problems which need solution. Research conducted in service installations and facilities should mainly be directed at specific questions of practical application. Such research will often suggest questions which require fundamental research. Within the limits of the facilities and the capacity of the research personnel, research



of that nature should be encouraged; its association with applied and developmental research gives vitality to the organization.

The military medical services should limit their programs of contracts for basic research in non-governmental institutions to problems having clearly identifiable relation to the prime functions of the service concerned. The majority of the present ONR contracts, which have no more relation to naval than to civilian medicine, should be transferred to the National Science Foundation when that is created.

The question of duplications, overlaps, identification of gaps which should be filled may safely be left to the Committee on Medical Sciences of the Research and Development Board.

2. The Public Health Service and the Veterans Administration. It is understood that with the creation of a department of Health, Education and Security, the administration of the hospitals of these two agencies, under a Director General, will be merged within the Division of Medical Care of the new Department. Clinical research should be included with medical care and should be encouraged within all of the hospitals. Since its character and quality in any hospital will depend upon the nature of the clinical material and the interests of the members of the staff, there should be a great degree of autonomy; at the same time a means of distribution and exchange of information among the hospitals must be provided. Duplications in this field of clinical research, knowingly undertaken, or not to be feared.

In some hospitals there will be concentrations of patients suffering from the same or related disorders. Coordination of the

work of two or more hospitals engaged in attack upon one broad problem is an obvious desideratum.

The Grants-in-Aid programs of the combined agencies will be administered by the Division of Education and Research of the new Department. If past experience is followed, the administrator of these programs will require the assistance of non-governmental experts in the design of programs, in the choice of institutions and individuals whose work is to be supported, and in decisions as to amounts of grants. At present the Surgeon General of the Public Health Service is assisted in these matters by small Advisory Councils, the majority of whose members are non-governmental experts selected and appointed by him. Advisory to these councils in the field of general medicine and basic medical sciences are Study Sections, 21 in number, with a total membership of some 250 experts drawn from all parts of the country. They are appointed by the Surgeon General, receive a substantial per diem and thus have become a part of the Public Health Organization.

The Veterans Administration has recently followed the precedent established by the Army, Navy, and Air Force which rely for advice concerning research programs, grants or contracts upon medical advisory committees of the National Research Council. In addition, the Chief Medical Director of the Veterans Administration requested that the chairman of the Division of Medical Sciences of the National Research Council appoint a Committee on Veterans Medical Problems to review and coordinate the recommendations of the medical advisory committees and to advise the Veterans Administration on its entire

research program. Members of these committees work under the terms of President Wilson's executive order which in 1918 perpetuated the National Research Council and regard themselves as bound by the terms of the congressional charter of the National Academy of Sciences, of which the Research Council is the active agent. They therefore serve without compensation but with reimbursement of actual expense incurred.

It will be the responsibility of the Director General of the new Department, in consultation, we assume, with the head of the Division of Education and research of the Department, to choose the system of expert advisory help best adapted to his needs. Both systems described above have proved to be excellent. Our only recommendation in this matter is that before deciding upon his advisory bodies, the Director General request and consider advice from the National Academy of Sciences.

3. The Clinical Research Center of the Public Health Service. Congressional authority has been given to the Public Health Service to plan and construct hospitals which shall adjoin the National Institute of Health and serve as centers for clinical research on cancer, Mental Diseases and Cardiovascular Diseases. $3,500,000 has been allocated for the acquisition of a site and the drawing of plans. $34,150,000 has been authorized, and of this $25,630,000 has been appropriated. The foundations are now being constructed. The plans call for 150 beds each for cancer, Mental Disease and Cardiovascular Disease, and 50 beds for other diseases. Research

facilities are to occupy about twice as much space as patient care facilities.

If the Department of Health, Education and Security is created, the administration of this Clinical Research Center will fall within the jurisdiction of the Director of Health. He should know and consider that many experienced non-governmental medical educators and investigators are apprehensive lest the provision of this great Center with competent professional and investigative staffs may so deplete the personnel of existing non-governmental institutions as to be detrimental to the medical economy of the Nation as a whole. If, as we believe, the danger is real, the rate at which active occupancy and staffing of the Center shall proceed should be so adjusted as to avoid it, at the same time permitting choice of personnel of the high quality which the enterprise demands.

As already stated, it is to be expected that research programs will be developed in Veterans Hospitals in which are concentrated patients suffering from the three groups of diseases which are to be the chief subjects of study in the Clinical Center. Coordination of those programs should be so effected with those of the Center as to increase the total scope of the research and make economies possible.

4. The Atomic Energy Commission. Recognizing that the Atomic Energy Commission is not included among the agencies to be studied by this Committee, we venture the following remarks:- The medical research policies of the AEC are still in the formative stage and their development should continue without immediate change in present

arrangements. The provision of radioactive isotopes makes available a unique tool for the investigation of an infinity of problems of metabolism of men, animals, plants, and microorganisms. Some of such work must be done in the immediate neighborhood of the isotope production machinery, i.e. the national laboratories. The larger part will be done in the research laboratories of non-governmental institutions throughout the country. Eventually it may be found wise to merge the arrangements for the unclassified research now promoted by the Atomic Energy Commission with those of the Office of Research of a Department of Health, Education and Security and those of a National Science Foundation when that shall have been created.

It is hoped that the biological and medical division of the Atomic Energy Commission will sponsor arrangements for the production and supply of labelled organic compounds necessary for the study of intermediary processes, thus relieving to a degree the necessity for laborious, expensive syntheses in laboratories not well equipped to conduct them.

5. A Committee on Medical Sciences, comparable to that of the research and Development Board of the Defense Establishment, should be created for the continuing study and coordination of medical research activities of the non-military Federal agencies. That committee should consist of representatives of the Division of Education and Research of the Department of Health, Education and Security, of the Atomic Energy Commission, and of the Department of Agriculture.

Representatives of this new Committee on Medical Sciences, together with those of the Committee on Medical Sciences of the Research and Development Board, should be appointed to form an Interagency Committee of Medical Sciences with the duty of review and coordination of all presently existing Federal programs of medical research.

The duties of the Interagency Committee will relate less to the programs of self-conducted research, in which the maximum degree of autonomy should obtain, than it will to the programs of contracts and grants-in-aid. For in these latter both autonomy and integrated cooperation are required if they are to meet individual agency needs and at the same time give broad coverage with avoidance of unnecessary duplication. The Interagency Committee must preserve the stimulating value of independence, at the same time effecting economies incident to cooperation.

When the National Science Foundation shall have been established, this Interagency Committee should be linked with the organization of the Division of Medical Science of the Foundation.

6. The influence of the Commission on Organization of the Executive Branch of the Government should be exerted in favor of the creation of a National Science Foundation.

The greatest need in relation to medical research both for the country as a whole and for the Federal agencies is for more and more competent investigators. It can not be overemphasized that the selection of talent, the education, training and experience of future investigators can be accomplished only in our colleges, universities,

medical schools and teaching hospitals. It can not be accomplished in the research facilities of the Federal Government.

From the standpoint of present necessities, the prime service which the National Science Foundation would render would be through its programs of identification and selection of talent and fellowships for training. These programs must be conducted in non-governmental institutions, and inasmuch as the natural sciences and engineering are integral divisions of the programs, the Foundation can not be made to fit within the organization of a Department of Health, Education and Security as that Department is now envisaged.

Of vital, though less immediate urgency, is the program of promotion of research by the National Science Foundation. That program, which is nothing less than nation-wide in its scope, must not be delegated to the Division of Research of the Department of Health, Education and Security because of the essential inter-dependence, previously emphasized, of medical research and that in the field of the natural sciences.

7. In one essential respect, the National Science Foundation as described in bills presented to the Eightieth Congress will not specifically meet certain necessities with which medical schools and their parent universities are now confronted. The cost of operating a medical school which maintains the standards of education and training requisite to the highest quality of medical care, together with the facilities for the research basic both to medical education and the advance of medical knowledge and skill, is now so great as to threaten impoverishment of the university of which it is a part.

The budgets of the 78 medical schools of the United States for the current year have been reported to total $51,000,000; tuition fees will amount to $12,800,000. From outside agencies, including Government, it is estimated that they will receive nearly $20,000,000. The income from outside agencies serves to help support teaching and research activities necessary to the training of physicians. The deficit of more than $18,000,000 is being made up from general university funds, gifts, and rapidly diminishing reserves.

We see no escape from the conclusion that under existing or predictable economic circumstances the continuing survival of medical education and research requires prompt Federal aid to medical schools.

It might be assumed that a further expansion of the grants-in-aid and contract programs of the Federal agencies might be increased to a level which would provide the necessary help. We believe with deep conviction that such a course would be damaging. Despite the invaluable aid which these programs have afforded to the medical schools during the post-war period, we believe that as a prime method of support to medical education and research in medical schools they are unsound. Some of the reasons for this statement are as follows:

> Grants-in-aid come as additions to resources without helping the fundamental structure of the institutions which receive them. They may actually add to the burden.
>
> They introduce a foreign and ephemeral element into the departments which accept them. They may endanger the consciences of the departments and institutions which apply for them.
>
> The abundance of Government funds provides the temption of asking for more than is needed or justified.

> They tend to promote volume of work rather than, and perhaps at the expense of, quality.
>
> They tend to result in the delegation of too much of the work of a problem to assistants and technicians.
>
> They may encourage the shaping of research projects to suit what are believed to be the aims of the granting agency rather than to the problems of greatest value to the science or to the development of the individual and his deepest interests.
>
> Persons employed in research financed by grants-in-aid are apt to be deprived of the opportunity of teaching and the good which comes from it. They tend to decrease the teaching efficiency in that the conscientious responsible investigator feels an obligation which leads him to withdraw too much from teaching.

If the above statements are sound, it follows that reliance should not be placed on expansion of the grants program for the relief of medical schools and that aid should be given in form and amount sufficient to enable a school to encourage the truest development of its personnel without the necessity of adjustment to the obligations of grants projects.

The only alternative seems to us to be a system of block grants. These might well be regarded as a partial reimbursement of expense incurred in furnishing the country with the personnel of medical care, obviously necessary in times of peace—vitally necessary to national security in time of war.

Our recommendation in this connection is that Congress be advised to appoint a commission and appropriate funds for a competent survey of the financial status of the privately supported, approved medical schools of this country, upon the results of which shall be based a program of direct Federal grants to those schools. Their

purpose shall be the maintenance and increase of facilities and staff necessary to provide the best possible training of the maximum number of medical students permitted by their facilities to give advanced training to exceptional students who show evidence of marked investigative capacity. Representatives of the Council on Medical Education and Licensure of the American Medical Association should be associated with this survey.

A provision should be devised for prompt Federal assistance to certain medical schools which, because of financial stress, are confronted with the immediate necessity of reducing their teaching strength.

We recommend that those who conduct the survey referred to above examine also the effects which the grants-in-aid assistance has had upon the educational and research welfare of the institutions which have received it.

8. The Army Medical Library (formerly the Surgeon General's Library). We recommend that this Library, said to be the largest medical library in the world, be transferred from the jurisdiction of the Surgeon General of the Army to that of the Department of Health, Education and Security. Its present eminence stems from the work of John S. Billings while a member of the Staff of the Surgeon General in 1864 and 1865. Its present usefulness to the Armed Forces is far less than to the Nation as a whole, and indeed to the world, less than one-fifth of the usage of its resources now being military. Its support, now requiring nearly a million dollars a year, is dependent upon military budgets and in comparison

with more specific military needs, has low priority. It has become a truly national asset in the field of medical education and research and could therefore properly be relieved of its military status. A new and suitable building for the Army Medical Library is a matter of immediate and urgent necessity.

9. We recommend that the Army Institute of Pathology remain in association with the Army Medical Center.

APPROPRIATIONS AND OBLIGATIONS FOR MEDICAL RESEARCH DURING FISCAL YEAR 1948

Agency	Basic Appropriation	Transfers[a] To Other Agencies	Transfers[a] From Other Agencies	Total Available	Obligations For: Self Conducted Research	Obligations For: Contracts	Obligations For: Fellowships	Unobligated Balance
TOTAL	52,965,130	3,699,317	3,602,154	52,867,967	25,585,878	25,622,600	1,361,590	297,899
Dept. of Army	4,045,043	400,037	167,977	3,812,983	2,422,950	1,390,033	-	-
Medical Dept.	3,100,000	400,037	-	2,699,963	1,657,930	1,042,033	-	-
Chemical Corps	945,043	-	167,977	1,113,020	765,020	348,000	-	-
Dept. of Navy	4,980,963	1,593,280	2,400,271	5,787,954	1,361,295	4,337,310	-	89,349
Bureau of Medicine and Surgery	2,940,942	1,593,280	-	1,347,662	1,347,662	-	-	-
Office of Naval Research	2,040,021	-	2,400,271	4,440,292	13,633	4,337,310	-	89,349
Dept. of Air Force	1,461,200	5,000	-	1,456,200	1,271,453	184,747	-	-
Atomic Energy Commission	14,484,755	1,652,500[c]	-	12,832,455	8,985,183	3,370,072	477,200[d]	-
Veterans Administration	2,632,458	-	675,659	3,308,117	921,292	2,178,275	-	208,550
Public Health Service	24,746,783	48,500	48,500	24,746,783	9,700,230	14,162,163	884,390	-
National Institutes of Health (including National Cancer Institute)	23,817,324[b]	-	48,500	23,865,824	8,819,271	14,162,163	884,390	-
Other Public Health Service	929,459	48,500	-	880,959	880,959	-	-	-
Dept. of Agriculture	613,728	-	309,747	923,475	923,475	-	-	-
Bureau of Animal Industry	562,275	-	-	562,275	562,275	-	-	-
Bureau of Entomology and Plant Quarantine	51,453	-	309,747	361,200	361,200	-	-	-

a/ Including transfers to and from agencies other than those listed.
b/ Includes $199,576 transferred to the Industrial Hygiene Division of Public Health Service for continuation of work previously done by National Institutes of Health.
c/ Includes $1,037,080 transferred to National Research Council.
d/ Obligated in fiscal year 1948 but actually spent in fiscal year 1949.

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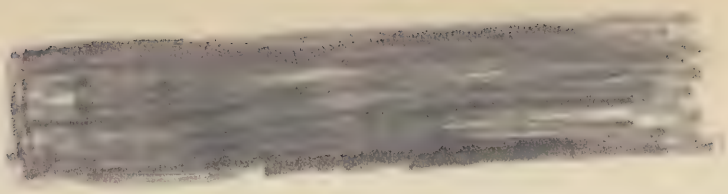
APPENDIX K

REPORT OF THE
SUBCOMMITTEE ON MEDICAL SUPPLY
COMMITTEE ON FEDERAL MEDICAL SERVICES

Mr. Herman Hangen
Mr. C. W. Harris

H. F. Currie, M.D., Staff
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TABLE OF CONTENTS

PART I

Page

Summary 1
Advantages of Present Organizations and Procedures 5
Disadvantages of Present Organizations and Procedures 5
Possible Solutions 6
Recommendation 7

PART II

Present Organization and Functions
1. General 10
2. Armed Forces 12
3. Veterans Administration 24
4. Public Health Service 28
5. Bureau of Federal Supply 29
6. Facilities, Personnel and Inventory 30
7. Cataloging, Specifications, Mass Procurement, Stock Control and Inspection 33
8. Integrating of Military and Civilian Medical Supply 35

PART III

Analysis of the Problem 37

APPENDIX

A. Map 54
B. Net Depot Space Available and Occupied for the Storage of Medical Equipment and Supplies by the Four Major Federal Medical Agencies as of June 30, 1948 55
C. Personnel Engaged in Medical Supply Activities by the Major Federal Medical Agencies in the United States 56
D. Value of Medical Supply Stocks on Hand and Required to Maintain Authorized Depot Stock Levels 57
E. Typical Illustration of Minor Variation of Items of Medical Supply and Packaging of Same for Use by Various Federal Medical Agencies 58
F. Statistical Information on Federal Medical Supply Activities Submitted by Federal Agencies Fiscal Year 1948 64

PART I

REPORT OF THE SUBCOMMITTEE ON MEDICAL SUPPLY

Summary

1. Medical supply activities are an important part of medical service, but only a part. In determining the best form of organization in the federal government to discharge medical supply functions, it must be considered that medical supplies are a tool of the professional service. Consequently, the solution presented in this report provides for an organization to carry out the medical supply functions with certain alternatives depending on decisions which may be made concerning the over-all medical and health organization within the federal government.

2. There are two civilian agencies operating major medical services - the Public Health Service and the Veterans Administration. The National Military Establishment operates two and a fraction medical services. The Navy operates its own; the Army operates its own and renders considerable medical service to the Air Force; the Air Force operates a partial medical service only, general hospitalization functions and medical supply functions being furnished by the Army. At the time of writing this report, active study was being carried out by the Armed Forces to determine the best type of medical service organization within the National Military Establishment.

3. Brief explanation of the medical supply activities of the major medical agencies follows: (Figures are for fiscal year 1948.)

a. The Public Health Service is responsible for about

PART I

THE ROLE OF THE
SECRETARIES OF NATIONAL DEFENCE

CHAPTER

five and one-half percent of federal hospital patient days and five percent of outpatient treatments. The Public Health Service procures about 14½ million dollars worth of medical supplies annually, of which one-third is procured centrally and two-thirds locally. It operates only one depot. In addition to operating hospitals for the care of the sick, the Public Health Service is involved in many research and preventive medicine projects. The supplies and equipment used in these latter activities do not lend themselves to standardization.

b. The Veterans Administration's primary medical function is care of the sick. Of the total federal hospital patient days, the Veterans Administration is responsible for approximately 59½ percent, but on the other hand, is responsible for only about nine percent of outpatient treatments. It procures about 33½ million dollars worth of medical supplies, 42 percent of which is procured centrally and 58 percent locally. Four depots are operated.

c. Navy. The Navy is responsible for about 13½ percent of federal hospital patient days and 43 percent of outpatient treatments. It procures about 12-3/4 million dollars worth of supplies - 94 percent centrally and 6 percent locally. Cataloging and central procurement activities are handled by the Armed Forces Medical Procurement Agency. The Navy operates two distribution depots and three reserve depots in the United States.

d. Army. The Army is responsible for general hospitalization for Army and the Air Force. Hospitalization in these services amounts to about 21½ percent of federal patient days and 43 percent of outpatient treatments. It procures about 20½ million dollars worth

of supplies - 81 percent centrally and 19 percent locally. Cataloging and procurement activities are handled by the Armed Services Medical Procurement Agency. The Army operates five distribution depots and two other depots in the United States. It procures for and distributes to the Army and the Air Force.

e. Air Force. Air Force hospitalization and outpatient are included in Army, paragraph 3.d., above. Cataloging and central procurement activities are handled by the Armed Services Medical Procurement Agency. The Air Force operates no medical depots in the United States.

4. For the last three years the Armed Forces have carried out consolidated medical procurement and allied activities in the joint Armed Services Medical Procurement Agency (formerly called the Army-Navy Medical Procurement Office). This joint Agency performs the following functions for the Armed Forces in the field of medical supply:

Cataloging - a joint catalog is published

Specification preparation and revision

Purchase of all centrally procured supplies

Inspection

Certain functions in connection with maintenance including the operation of a joint school for training maintenance and repair technicians.

Developmental engineering on new items

5. As of the date of this report, the Army and Air Force have not decided upon the type of medical service, including supply, which they will have. At present all the commissioned personnel involved in

Air Force medical activities are detailed from the Army. The Army operates all general hospitalization for itself and the Air Force, and procures and distributes all medical supplies. In fiscal year 1950 the Air Force will budget for the supplies it expects to consume and will turn this money over to the Army. Whether or not the Air Force will have a complete medical service of its own, including personnel, general hospitals, and a supply distribution system, has not been determined. In any event it seems assured that the Armed Services Medical Procurement Agency will continue to discharge its present functions for all three of the Armed Forces.

6. Likewise, as of the date of this report, the type of medical service organization which the Armed Forces as a whole will have, has not been definitely determined. A recommendation to establish a joint medical supply system including distribution as well as procurement has been made to the Secretary of Defense.

7. Appendix F presents a statistical summary of functions concerning medical supply within the federal government. It is difficult and dangerous to make comparisons between the various agencies due to the many differences in function and methods of reporting. For example, Veterans Administration has no separate medical supply system, and, consequently, figures on personnel involved in medical supply work, space occupied by medical supplies, etc., are estimates only. As another example, the Army procures and handles considerable quantities of medical supplies for various foreign aid programs. There are many other examples which could be cited to show that comparisons from these figures are dangerous. It must be borne in mind that the purpose

of this study is to determine an organizational and functional structure for handling medical supply in the federal government and not to determine the relative efficiencies and inefficiencies of existing agencies.

8. The four and a fraction major federal medical services operate three central procurement offices (Public Health Service, Veterans Administration, and the Armed Services Medical Procurement Agency). They operate four depot systems (Public Health Service, Veterans Administration, Navy and Army) comprising seventeen depots in the United States. This results in overlapping and duplication.

ADVANTAGES OF PRESENT ORGANIZATIONS AND PROCEDURES

1. Each major agency using medical supplies, with the exception of the Air Force, controls its own supply system and is able to tailor it to its own needs. This makes for clear organizational responsibility and authority, and quick action to meet varied demands.

2. The supply system of each agency, with the exception of Veterans Administration, is under professional control and is consequently responsive to professional needs.

DISADVANTAGES OF PRESENT ORGANIZATIONS AND PROCEDURES

1. There is needless duplication and overlapping resulting in a wast of money and personnel.

a. Three separate central procurement offices are maintained - four, if the Bureau of Federal Supply is included. All of these

buy essentially the same items without coordination. Each works up its own specifications.

b. Four parallel sets of depot distribution systems exist - five, if the Bureau of Federal Supply is included. All of these handle essentially the same items. In many instances a hospital of one agency is located in the same city as a depot of another agency, yet draws its supplies from the depot of its own agency, hundreds of miles away.

c. There are three systems of cataloging - four, if the Bureau of Federal Supply is included. The Armed Forces have a joint catalog. The Veterans Administration and Public Health Service have their own catalogs which to a great extent use the numbering and nomenclature of the Armed Forces. The Bureau of Federal Supply has a catalog using a different numbering and nomenclature system.

d. There is no central control of the stocks of the various agencies. In the event of war and the need for rapid mobilization of medical supplies for military and civil defense needs, there is no central agency which knows the location of stocks or which has the power to make them available. Furthermore, the lack of a common system of numbering and nomenclature would make it impossible to establish rapdily such a central control in time of national emergency.

e. It is obvious that one supply agency will result in a more economical over-all operation.

POSSIBLE SOLUTIONS

There are many possible solutions to the problem. The more feasible are briefly mentioned below:

1. That the Commission on Organization of the Executive Branch of the Government take no special action on the medical supply problem, and let each agency having a medical service have its own supply agency.

2. That one medical supply system be established for civilian medical services (Public Health Service, Veterans Administration and other minor agencies) and that the Military Establishment work out its own solution: maintaining the status quo, splitting into three systems, or consolidating into one system.

3. That two medical supply systems be established, one for civilian agencies and one for military.

4. That one complete medical supply system be established including the functions of procurement, stock control, and depot operation. The operation of this system would be either under the control of the Military Establishment or a National Health Bureau depending upon the organization setup for the administration of federal medical care.

RECOMMENDATION

Under the act creating the Commission on Organization of the Executive Branch of the Government which specifies that duplication and overlapping of functions are to be eliminated where practical, and that services, activities and functions of a similar nature are to be consolidated, the subcommittee recommends that alternative No. 4, above, be adopted as outlined below:

1. Inasmuch as it is essential that the Armed Forces have a

complete medical supply system including central procurement and distribution functions, the federal medical supply system should be assigned to the National Military Establishment and operated as a single service on the basis either that there is a merger of their medical services, or that the responsibility and authority for operation be delegated to one of the three Armed Forces. While this subcommittee is cognizant of the present eminently satisfactory operation of the Armed Services Medical Procurement Agency on a joint basis in the field of procurement, it does not feel that a jointly controlled organization could efficiently function in the expanded fields of distribution, servicing both military and civilian agencies.

2. If neither of the solutions in Paragraph 1, above, can be worked out because of organizational difficulties, then this subcommittee recommends that the medical supply agency be operated by the Department of Health and Welfare. In this latter event, it would be necessary for the Armed Forces to detail personnel to this agency for training in depot and other supply operations. This is necessary because overseas depots, both in peace and war, would have to be operated by the Armed Forces. Furthermore, in time of war the medical supply agency could be transferred to the military establishment if that seemed necessary.

3. If alternative No. 4 were adopted, a careful phasing of shifts in organization and function would be necessary: first, standardization in numbering and nomenclature, standardization of forms, accounting systems and administrative procedures; second, the merging of all central procurement activities, and the development of

inter-departmental fiscal procedures; and third, the assumption by the agency of all stock control and depot activities.

4. The subcommittee is of the opinion that adoption of alternative No. 4 would result in the following advantages and economies:

a. A more efficient service to professional groups due to concentration of stocks in fewer depots and corresponding decrease in "out-of-stock" situations.

b. The elimination of two of the present three central procurement offices.

c. The reduction of the present seventeen depots to about four distribution depots, plus an assembly and perhaps a separate depot for war reserve stocks. This reduction would be gradual as existing stocks were consumed.

d. The reduction in stocks.

e. A considerable saving in transportation by the reduction in back hauls.

f. The assurance of fresher stock due to larger volume for each depot and more rapid turnover.

g. The ability to mobilize rapidly all federal stocks in time of war or other national emergency and to make them available for military and/or civilian needs.

PART II

Present Organization and Functions

1. General. There are at the present time four major federal medical services involved in the procurement, storage and distribution of medical equipment and supplies. These agencies are the Army (including the Air Force), the Navy, the Veterans Administration and the Public Health Service. Medical equipment and supplies for the Air Forces are presently handled by the Army supply agency. Each supply agency of the four major federal medical services maintains storage and distribution facilities. The Army and Navy have consolidated certain activities; namely, cataloging, specifications, standards, procurement, laboratory, testing, equipment development and inspection activities. Each supply agency with the exception of the Public Health Service maintains a system of depots through the continental United States, and the Armed Forces also have depots overseas. Only one depot is operated by the Public Health Service. The Veterans Administration has the greatest medical supply activity, with the Army, Navy, and the Public Health Service following in volume. Central offices are maintained by all medical supply agencies of the four major federal medical services. These offices deal with plans, policy, direction and operation of the supply activities of the service.

The medical supply agencies of the four major federal medical services, with the exception of the Veterans Administration, are under and a part of the office of the respective Surgeons General. In the

Veterans Administration medical supply is a part of the general supply system, under the Assistant Administrator for Construction, Supply and Real Estate, and not under medical control.

In addition to the medical supply activities of the federal medical services referred to above, another federal agency, the Bureau of Federal Supply is involved in the procurement of medical equipment and supplies on a smaller scale. It is mandatory that federal agencies procure certain items through this agency, while in other instances the use of the agency is optional. Open contracts are let by this agency through which any federal agency may procure equipment and supplies against the contract. Several minor federal medical services such as Freedmen's Hospital, the Indian Service, the medical services of the Tennessee Valley Authority, etc., purchase some medical equipment and supplies locally and obtain others from the supply agencies of the other federal medical services, as well as utilizing contracts of the Bureau of Federal Supply.

The tendency of the supply agencies of the Veterans Administration and the Public Health Service has been to adopt in varying degrees the supply system of the Army and the nomenclature and cataloging of the Army-Navy Medical Procurement Office. The standards and specifications developed by the Army-Navy Medical Procurement Office are utilized by these supply agencies insofar as it is practicable.

All supply agencies of the four major federal medical services utilize machine records for stock accounting and control; however, the various agencies use two systems of machines (IBM and Remington Rand), in which records are not interchangeable, thus preventing a consolidated

report of stocks of medical equipment and supplies in the hands of the four federal medical services.

There are marked variations in the levels of stock held by the four federal medical services. The Army authorizes a 90-day stock level at depots and a 60-day level at stations. The Navy authorizes 180-day levels at depots and officially 90 days at stations. The Veterans Administration authorizes 180 days at depots and 90 days at stations. The Public Health Service maintains a 120-day level at depot (supply station) and a 90-day level at stations.

The attitude of the supply agencies of the four major federal medical services, with reference to local procurement of equipment and supplies, varies. This can be explained to some extent by a variation in missions of the services. All local procurement is within money allowances established for stations, or in special cases authority must be obtained from the central office for purchases in excess of the allowance.

2. Armed Forces

a. Army

(1) Central Office (Supply Division, Office of the Surgeon General). The Supply Division, Office of the Surgeon General, Department of the Army, is a staff division of that office. The office of the chief of the division is the planning and policy making body for operation of the medical supply system of the Army. The Office of the Surgeon General as one of the Technical Services is under the general staff direction of the Director of Logistics, General Staff. The central office of the Supply Division

is composed of 24 officers and 110 civilian employees. In addition to this staff the Army-Navy Procurement Office in Brooklyn, New York is composed of 53 military and 294 civilian personnel. Supply planning is carried on by the Office of the Chief and liaison maintained with the Army-Navy Procurement Office. Specifically the Division is charged with:

(a) Determining medical supplies and equipment required for the planned troop strength and medical program of the Army.

(b) Obtaining and storing an adequate supply of these items to meet anticipated needs.

(c) Providing procedures for and supervising the distribution of these items through the Army structure, including civilian components, in accordance with the Army medical supply program.

(d) To plan for the establishment of reserve stocks of medical supplies and equipment.

(e) Establishing and supervising the maintenance program for Medical Department equipment.

(f) Determining surplus medical supplies and equipment and reporting same to disposal agencies.

(g) Providing procedures for and supervising civil affairs supply matters and foreign assistance programs of the Surgeon General's Office.

(h) Laying plans and providing methods for industrial mobilization and procurement coordination planning activities.

(i) Supervising for the Surgeon General, the operation of the Army-Navy Medical Procurement Office, insofar as the interest of the Medical Department of the Army is concerned.

(j) Reviewing, consolidating and defending budget estimates pertaining to the Supply Division.

(k) Providing procedures for and supervising any Medical Department supply matters of the Surgeon General's Office. Other activities of the Division are as follows:

(a) Depot Branch. This branch is responsible for the technical control and direction of operation in medical supply depots and medical sections of Army general depots. Liaison is maintained with these depot activities and reports of depot operations are received and consolidated.

(b) Distribution Branch. This branch is further subdivided into two sections:

1 Domestic Section. This section controls the issue of medical equipment and supplies to domestic medical stations of the Army. Approval action is taken on certain items reserved for control by the Office of the Surgeon General, these being chiefly items of costly equipment, special apparatus, etc. Questions of issue policy are formulated and general direction given to the field relative to the domestic issue of supplies.

2 Overseas Section. This section deals with the issue of supplies to United States Army Medical Depots located in overseas bases or occupation areas. Requisitions from overseas medical supply activities are normally received by the port supply

agency charged with the supply of the overseas base or area and supply action taken by the port supply agency to edit the requisition and forward it to a port filler depot for shipment of the supplies. In the event of conflict or question as to the items requisitioned by the overseas supply agencies requisitions are forwarded to the Overseas Section of the Distribution Branch for further study and final decision.

(c) Requirements and Stock Control Branch. This branch, located in Brooklyn, New York, is responsible for determining the medical equipment and supply requirements of the Army and civilian components. This agency is further charged with determining the stock level of items to be maintained at depots and the maintenance of adequately balanced stock therein, by initiating procurement, preparing delivery schedules and by directing depots to transfer stock as required. Further duties are the determining of requirements for mobilization and the carrying out of an assembly program to meet these requirements, the determination of excess and surplus stocks, consolidation of depot stock status reports and the preparation of budget estimates for medical equipment and supplies.

(d) Foreign Aid Branch. This branch deals with the issue of medical equipment and supplies under control of the Army to foreign governments in accordance with approved policies of the Department of the Army. These items of equipment and supply are requisitioned from depots by this agency and instructions given as to packing, marking, shipping, etc.

(2) Field Activities

(a) Depots. The Army has currently in operation three Medical Depots and four sections of Army General Depots. Five of these depots are used for the storage and distribution of medical equipment and supplies; one is utilized as a depot to assemble hospitals and other assemblies; and one is a bulk storage depot having a maintenance and repair shop, an optical shop, and facilities for training personnel in repair and maintenance and general medical supply activities. The distribution areas and locations of the depots are indicated on the attached map, Appendix A. The space available for storage and other pertinent data is shown on the chart, Appendix B.

Medical Depots and medical sections of Army General Depots have, in addition to the missions indicated above, the mission of maintaining stock control in stations within the distribution area. This mission is carried out by representatives of the depots visiting the station, assisting in establishing stock levels of the items carried, assisting in setting up and maintaining required records, and, in general, policing the medical supply activities at station level.

(b) Army Areas. Each Army Area Headquarters has a Medical Supply Officer who is charged with policing the medical supply activities of stations within the Army Area. Since certain supply functions are charged to the Army Areas, a report is made to Army Area Commanders of activities relative to station supply which are carried on by the depot or depots serving the area.

(c) Station Supply Activities. Each station (hospital, dispensary, etc.) has a supply section headed by a Medical Supply Officer who is charged with the requisitioning, storage, issue, maintenance and repair of equipment and supplies. Levels of supply are established at each station dependent upon the patient load. A 60-day level of supply is established as the amount to be stocked by stations, and dependent upon experience factors, the amount of supplies stocked is varied to stay within the 60-day level. Requisitions are submitted by stations to designated distribution depots every 60 days, or more frequently where emergencies arise. Local procurement by stations is authorized where items are required at once to meet emergencies. Standardized records of stocks are maintained by stations and these records are audited periodically by representatives of the depot, responsible for supply of the station. Where surpluses in certain items are found, stations are directed to return these items to the depot. No bulk storage of supply over the 60-day level is authorized at stations unless the station serves as a sub-depot to supply surrounding small stations.

b. Air Force

(1) Central Office (Medical Materiel Branch, Office of the Air Surgeon). The Medical Materiel Branch of the Air Surgeon's Office, Department of Air, is a part of the Medical Plans and Services Division of that office. The branch is headed by the Chief and is sub-divided into the Requirements Section, the Armed Forces Medical Procurement Section, and the Storage and Distribution Section. The Medical Materiel Branch formulizes medical

materiel and supply policies for the Air Force; plans and coordinates over-all medical materiel and supply activities. A brief outline of organizational functions follows: plans, directs and supervises the activities of the branch; will be the Air Force member of the Armed Services Medical Procurement Board which is being established this month to replace the existing Army-Navy Medical Procurement Agency by admitting the Air Force to full participation at the policy level.

(a) Requirements Section. The Chief of this section is a member of the Armed Forces Medical Materiel and Specifications Board. The section is responsible for computing quantitative and qualitative requirements of all Air Force medical items. A specification unit charged with determining the specifications for medical service supply, monitoring and testing of procured materiel for compliance with specified standards, is a sub-division of this section. A development unit, charged with research into and development of new medical equipment developing plans and procedures into the operational facilities necessary to determine the strength, durability, and application of various items of medical equipment, is also a part of this section.

(b) Armed Forces Medical Procurement Agency Section. This section is responsible for determining policies for, and directing the procurement of, all items of medical equipment and supply required by the Air Force. A purchasing unit, responsible for implementation and coordination of plans and policies for the soliciting of bids and quotations, awarding of contracts, negotiation of purchase, modification of contracts and purchase orders,

termination of contracts, disposition of surpluses, sale and recovery of salvage stocks, and local procurement, is a part of this section. A fiscal unit, responsible for maintenance of records on development and research projects, consumption rates, statistics on costs and contracts status, maintaining liaison with the Budget and Fiscal Branch in providing data and factors for budgetary purposes, is also a part of this section. A catalog unit, responsible for the preparation and publication of medical supply catalogs, for pertinent additions thereto, and deletions therefrom on recommendation of the development unit, and publication of standard nomenclature lists, is another part of this section.

(c) Storage and Distribution Section. This section determines the policies and plans and is responsible for the storage, distribution, and technical maintenance of medical supplies and equipment peculiar to the Air Force. A depot operations unit plans and implements policies governing supervision of medical supply storage facilities, security and regulations required under public law, and governing storage of narcotics, is a part of this section. A stock control and records unit is also a part of this section and is charged with collecting and compiling reports of the various medical supply depots, preparing and maintaining statistics pertaining to the rate of issue of medical supplies from which periodical requirements may be calculated. The table of organization and equipment unit of this section is charged with preparing, revising and amending tables of organization and equipment and tables of allowances for all Air Force medical organizations; and with initiating action for the development of suitable medical equipment for air-borne

medical units. A maintenance unit of this section is responsible for originating data and technical directives on the repair and upkeep of medical equipment and implementing policies governing functions of depot maintenance and repair shops. Two military and one civilian employee comprise the medical supply staff of the central office at the present time.

(2) Field Activities

(a) Depots. One depot, the Wright-Patterson Air Force Depot at Dayton, Ohio, maintains a medical section where items of Medical Department supply peculiar to the Air Force are stored and issued. Involved in this operation are two military and twelve civilian employees. Small amounts of this type of supply are also stored and issued at the larger air bases. For general supply of Medical Department items, stations of the Air Force depend upon the depot system operated by the Surgeon General, Department of the Army.

(b) Station Supply Activities. Station supply activities are the same as those of the Army with the exception that items of medical supply peculiar to the Air Force are requisitioned from the Medical Section of the Air Force Depot at Wright-Patterson Air Force Base.

NOTE: At present all central procurement is handled by the Army-Navy Medical Procurement Office; and storage and issue of all medical supplies and equipment, with the exception of the storage and issue of items peculiar to the Air Force, is carried on by the Supply Division, Office of the Surgeon General, Department of the Army.

c. Navy

(1) Central Office (Materiel Division, Bureau of Medicine and Surgery). The Medical Materiel Division is a staff division of the Bureau of Medicine and Surgery, Department of the Navy. The Division is headed by the Director. The Office of the Director is in Brooklyn, New York, with a sub-office in Washington, D.C. The Division is charged with establishing basic policies governing Navy medical materiel; direction of development and accomplishment of special medical materiel programs in support of Naval operating plans; and is responsible for the direction and coordination of all elements of the Medical Supply System, including the Naval Medical Materiel Office, Medical Supply Depots, and such other medical supply facilities as may be established under the management or technical control of the Bureau of Medicine and Surgery. The Central Office is composed of 32 military personnel and 60 civilian employees. In addition to this staff, the Army-Navy Medical Procurement Office in Brooklyn, New York, is composed of 53 military and 294 civilian personnel. Specifically the division is charged with:

(a) Exercising direct control over the Naval Medical Materiel Office.

(b) Developing basic material policies and specific material programs with particular regard to specialized categories of material.

(c) Keeping currently informed of improvements, developments, and current trends in the professional and technical aspects of the fields of medicine and dentistry, particularly as they relate to material requirements.

(d) Maintaining liaison with Professional, Preventive Medicine, Research, Planning, and other divisions of the Bureau regarding the development of new items and all other professional and technical material matters.

(e) Formulating Bureau of Medicine policies relative to cataloging, specifications, and the development of standard medical materials, and coordinating these policies with the work of the Washington office, the Naval Medical Procurement Board, the Army-Navy Medical Procurement Office, and other related agencies.

(f) Determining levels of stock to be maintained by Medical Department activities.

(g) Prescribe salvage and surplus property disposal procedures to be employed in the medical supply system.

(h) In conjunction with the Finance Division, prescribing methods of preparation and correlation of data required to support budgetary estimates of the medical stores program.

(i) Reviewing estimates submitted by field activities for materials and services as required, and authorizing procurement as indicated.

Other activities of the Division are as follows:

(a) Depot Management Branch. The Depot Management Officer is in charge of the Branch and is charged with being cognizant of the organization and maintenance requirements of the Medical Supply Depots; assisting in developing policies and methods for the receipt, inspection, storage, preservation, repair and disposition of stores at the depots; advising the depots generally in

such matters; and making periodic inspections of depots and reporting his findings to the Division Director. In addition, he is charged with reviewing, studying, and making recommendations concerning the organizational structure and the administrative and operating policies and procedures of the Material Division and the Naval Medical Materiel Office for the purpose of coordinating and integrating their respective functions.

(b) Dental Materiel Branch. The Dental Materiel Officer is in charge of the Branch and is charged with assisting and giving technical advice to the Division Director in the dental aspects of the materiel functions. He is charged with maintaining liaison with the Dental Division for the purpose of coordinating the dental materiel program with dental personnel and operational programs.

(c) Washington Office. The Washington Office of the Material Division is charged with performing liaison functions between the Material Division and other divisions of the Bureau; representing the Division in necessary personal contacts with other agencies in Washington and the surrounding area. The Office is further charged with correlating the functions of the Advance Base and Ships Medical Materiel Section, the Specifications Section, and the Automotive and Medical Material Section, which are located in the Washington Office.

(2) Field Activities

(a) Depots. There are in operation two Naval Medical Supply Depots and three Medical Stores Sections of Naval Supply Depots in the continental United States. (See map, Appendix A, indicating locations and distribution areas). Optical Service Units

(Base Type) are operated overseas but not in the continental limits of the United States. The space available for storage of medical supplies and equipment is indicated on chart, Appendix B. The Naval Medical Supply Depots indicated above are responsible for storing and distributing medical supplies and equipment to Ships and Shore Stations of the Navy. The Medical Stores Sections of Navy Supply Depots serve as bulk storage areas for medical supplies and equipment and back up the Naval Medical Supply Depot System.

(b) Naval Districts. The Medical Office of the Naval District is charged with supervision of medical supply activities at station level. Inspections are made to determine the status of stocks and to determine that central office directives relative to medical supply are being complied with.

(c) Ships and Shore Station Activities. Ships and shore stations requisition medical supplies and equipment from designated depots in accordance with established allowances. Inspection of medical supply activities at station level are made by representatives of the Naval District Medical Officer. Procedures for medical supply activities are established in the central office. Local procurement is authorized in accordance with existing directives and within established monetary allowances.

3. Veterans Administration

a. Central Office. The Central Office Supply Service, which is a general organization for all types of supply required in the operation of Veterans Administration facilities, is directly under the Office of the Assistant Administrator for Construction, Supply and Real Estate.

This office serves to formulate standards, policies and procedures for all activities relating to:

(1) Compilation of supply and equipment requirements, processing of same, stock control, property records and distribution of supplies and equipment.

(2) Purchase of supplies and equipment, standardization, specifications, making and termination of purchase contracts, transportation of supplies and equipment, acquisition of surplus supplies of other federal services and disposal of Veterans Administration surpluses.

(3) Storage, preservation, and maintenance of supplies and equipment procured.

(4) Procures all standard items.

(5) Operates the Veterans Administration supply depots.

(6) Prepares and publishes the official Veterans Administration supply catalog.

(7) Exercises staff supervision over and provides assistance to execution of all activities of the Supply Service which are assigned to branch offices.

b. Field Activities

(1) Depots. The Veterans Administration has currently in operation four supply depots (see Appendix A for location and distribution areas). The space available for storage of medical equipment and supplies is indicated in chart, Appendix B. These depots stock all classes of supplies and equipment utilized in the Veterans Administration facilities, including medical. The supply depots are under the immediate

jurisdiction of the Supply Service, Central Office. Depots are headed by a manager who is responsible to the Director, Supply Service. Staff supervision and technical assistance in connection with activities common to supply depots and field stations is rendered by Branch Offices having jurisdiction over the area in which the depot is located. No sectional breakdown (such as medical, signal, etc.) is carried out in the Veterans Administration supply depots.

(2) Branch Office Supply Division. The Supply Division at branch level, of which there are thirteen:

(a) Implements established standards, policies, and procedures relating to the Veterans Administration supply program within the Branch Office area.

(b) Approves the procurement of items not restricted to Central Office approval or authorized at field station level. Reviews, coordinates, and makes recommendations on requests for items requiring Central Office approval.

(c) Conducts periodic inspection of supply activities at field stations located within the Branch area.

(d) Exercises staff supervision over and provides assistance relative to execution of that part of the Veterans Administration supply program assigned to field stations.

(3) Regional Office Supply Division. The Supply Division at regional level (there are 61 regional offices):

(a) Obtains by requisition or through procurement supplies and equipment necessary for the maintenance and operation of stations, contact offices, and guidance centers within its territory.

(b) Determines proper stock level of supply.

(c) Makes awards and contracts, authorized to be made by stations, covering the procurement of supplies.

(d) Receives, stores and issues, exchanges, transfers, and safeguards supplies and equipment.

(e) Prepares annual and other required inventories of all expendable property in stock and all non-expendable property in stock or in use.

(f) Directs the preparation, issuance and accomplishment of bills of lading.

(4) Hospital and "Center" Supply Divisions:

(a) Obtain by requisition or through procurement, as authorized, supplies and equipment necessary for the maintenance and operation of installations.

(b) Determine proper levels of supply in accordance with established policy.

(c) Make awards and contracts authorized to be made by the station covering the purchase of supplies, and processes fiscal vouchers.

(d) Receive, store, and issue supplies and equipment.

(e) Prepare required inventories of property.

NOTE: The Chief Medical Director has only advisory functions relative to medical supply. These are essentially recommendations as to professional standards, new items desired, review of equipment lists, representation on certain committees dealing with supply, professional review of performance of medical equipment in the field, etc.

4. Public Health Service

a. Central Office. The Office of Purchase and Supply is a staff division of the Office of the Surgeon General, Public Health Service. This office establishes standards and procedures for the procurement and delivery of equipment and supplies required by the service. It processes some purchasing centrally, but the majority of this work is delegated to the stations. The office is also responsible for property records and disposal of surplus materials.

b. Field Activities

(1) Depots. One depot (Supply Station) is maintained by the Public Health Service at Perry Point, Maryland, for the storage and distribution of medical and certain other supplies and equipment. This depot also furnishes supplies and equipment to other federal agencies. It is the policy of the Public Health Service to stock at the depot only items in which there is an appreciable saving by mass procurement or where better service may be obtained by such stockage. Items are also stocked where it is desirable to standardize rather than allowing stations to procure locally a variety of the same type item. All expenses in connection with the operation of the depot are taken care of by adding a surcharge to the items shipped to stations. This includes charges for personal services, material, equipment required in handling, transportation, etc. The one depot serves as a distribution depot for the entire United States with the exception of some West Coast stations which are served by the Naval Medical Supply Depot in Oakland, California. The Navy is reimbursed for the items issued to stations of the Public Health Service.

(2) Station Supply Activities. Stations of the Public Health Service obtain the bulk of medical equipment and supplies by local purchase and by the utilization of open-end contracts entered into by the Bureau of Federal Supply. It is mandatory that items listed in the catalog of the Service be requisitioned from the depot unless approval for local purchase is obtained from the central office or unless an emergency supply requirement exists. Certain large stations of the Public Health Service, such as the National Institute of Health and the Communicable Disease Center, are authorized wide latitude in the matter of local procurement because of their specialized needs. Station medical supply is policed by representatives of the Public Health Service in the various districts throughout the United States, who inspect records maintained and the levels of supplies on hand. Periodic inspection of station supply activities are also made by representatives of the Central Office. Policy as to station supply is dictated by the Central Office.

5. Bureau of Federal Supply

a. Central Office. The Bureau of Federal Supply is an agency of the Treasury Department having its central office in Washington, D.C. The Bureau is headed by a Director responsible to the Secretary of the Treasury. A stock catalog of items ordinarily carried in depot stocks is maintained by this agency. Federal Supply Schedules of the various classes of supplies, listing the contractors holding open-end contracts, are also prepared and distributed by this agency.

Few items of medical equipment and supply are stocked by the depots of the Bureau of Federal Supply; however, a fairly comprehensive

listing of these items is included under classes 51 and 57 of the Federal Supply Schedule. The items included on the schedule must in some cases be purchased on the contracts of the Bureau; however, the purchase of other items is optional. Contracts in all cases call for delivery to the using agency. A review of the Federal Supply Schedule, invitation, bid and acceptance form indicates that only limited utilization was made of the contracts on classes 51 and 57 during the period July 1, 1946 to July 31, 1947 (these are the latest figures on amounts purchased against existing contracts).

b. Field Activities. Twelve supply centers are maintained by the Bureau of Federal Supply (see map, Appendix A). These centers provide geographical coverage for the continental United States. Items available in stock may be requisitioned from these supply centers by any federal agency. As previously stated, few items of medical equipment and supply are stocked by the depots of the Bureau of Federal Supply, those stocked being chiefly first aid items, certain chemicals, and laboratory glassware. According to information obtained, it appears that due to limited funds and the constant changing of medical items, the Bureau has found it more advantageous to handle this type of supply by open-end contract rather than by the acquisition of depot stocks.

6. Facilities, Personnel and Inventory

a. Facilities. The facilities currently required by the federal agencies involved in medical supply activities are greatly in excess of the missions being performed. Not only is an excess amount of storage space retained by these agencies, but the number of depots is greatly in excess of the needs to provide adequate geographical

coverage. In many cases facilities of different federal agencies involved in medical supply activities are located in the immediate vicinity of each other, both performing near or identical functions. In some cases facilities are rented; in others the facilities are government-owned. In either case, the upkeep and operation costs are financed by the federal government. The four major federal agencies involved in medical supply operate 17 depots or medical sections of General Depots which have varying degrees of medical supply activity. Space occupied by medical equipment and supplies in facilities held, is indicated on the attached chart, Appendix B. It is plainly indicated that a costly excess of space is retained which could be markedly reduced by discontinuance of some facilities, consolidation of stocks, and reduction of inventory.

In addition to the facilities referred to above, each federal agency involved in medical supply activities maintains a central office with a medical supply section and in certain cases separate procurement offices, inspection activities, etc.

b. Personnel. Personnel involved in medical supply activities, especially those in the key positions, are considered in a scarce category. The technical and professional knowledge of individuals in key positions of medical supply is essential to efficient and economical operation. There is marked competition for talented individuals trained in medical supply, the competition not being limited to federal agencies but extending to commercial establishments dealing in medical supply. A concentration of the highly trained personnel in the medical supply field could effect marked efficiency with resultant economy in

the federal government. There is in medical supply as in the professional phase of medicine, a need for specialization. The buyer of a medical supply commodity is limited in his knowledge of that commodity unless continually trained in improvements which have been made. This increased knowledge results invariably in a better product received and economy from reduction in waste caused by poor "buys" or the purchase of inferior products, which are unacceptable to the using agency. This same principle is equally applicable to all phases of medical supply activity. A pooling of the best brains within the field of medical supply in federal agencies would result in greatly improved efficiency, better service, and marked economies to the federal government. The reduction in depot overhead personnel alone by a consolidation of depot activities would in itself represent a distinct saving. Chart, Appendix C, indicates the personnel currently employed in medical supply activities.

c. Inventory. The inventory of medical equipment and supplies currently carried by federal agencies involved in medical supply activities appears to be in excess of that required for good business operation. The approximate inventory cost of medical equipment and supplies in bulk storage in the hands of federal agencies as of 30 June 1948 is shown in chart, Appendix D. It must be considered, however, that in this inventory are war reserves which rightfully should be maintained. There are also many items in excess supply that are carried over from the war and that are gradually being consumed. The levels of supply maintained in depots by the federal agencies are also indicated in Appendix D. While it was impracticable to obtain the specific information,

it must be assumed that the various stations (hospitals, dispensaries, etc.) have large quantities of medical equipment and supplies in local store rooms which would quite markedly increase the over-all inventory valuation.

Another factor worthy of consideration with regard to stocks of medical equipment and supplies in the hands of federal agencies is that no uniform system of stock accounting is practiced. This results in certain agencies having an excess of certain items and others having a shortage, with no easy practicable method for transferring stock between agencies.

7. Cataloging, Specifications, Mass Procurement, Stock Control, and Inspection

a. Cataloging. At the present time, each federal agency, with the exception of the Armed Services, involved in medical supply activity has a separate catalog or a section of a catalog devoted to medical equipment and supplies. Again attempts have been made to standardize to some extent on nomenclature and numbering of items. This task, however, is far from being accomplished, and items considered as medical supply by some agencies are classified in different groupings by others. (Hospital clothing is an example of this difference in cataloging.) It appears that little can be done toward such goals as common stock accounting procedures until all federal agencies reach agreement on nomenclature and numbering used in catalogs, and, preferably, the adoption of a common medical material catalog for all such agencies.

b. Specifications. Currently, specifications for items of medical equipment and supply are being developed and prepared by a majority of the medical supply systems of the federal agencies. This is in itself an extremely large and costly operation, and the time required actually to produce, clear, and release a specification of a permanent type is estimated to be approximately one year. Such delay tends to retard the purchase of superior items which have been developed, but which cannot be procured without adequate specifications. The development of specifications requires specialized technical knowledge which is not abundant. The competition for the type of knowledge between the federal agencies is keen, and the duplication of this function in several agencies does not allow the concentration of this specialized knowledge in any one place.

A multitude of specifications again places an unnecessary burden on industry, with resultant increases in government costs.

c. Mass Procurement. The economies of well directed mass procurement are well known to private business. The federal government, being the largest purchaser of supplies in the country, is in a position to demand substantial discounts by concentration of requirements and mass purchase. Mass procurement of medical equipment and supplies can readily be accomplished once requirements can be computed on a basis of a common supply language in federal agencies.

d. Stock Control. Central control of depot stocks is maintained by central offices of federal agencies engaged in medical supply activity. Since different machine accounting systems are used, and since no common system of numbering and cataloging of all items has

been developed by agencies, except the Armed Services, a consolidated report of stock on hand in federal agencies is not possible.

c. Inspection. The matter of inspecting items of medical equipment and supplies procured by or for federal agencies is handled in a variety of manners. Some agencies have established more or less elaborate inspection systems, while others have little or no inspection facilities or activities. The Armed Services Medical Procurement Agency performs laboratory examinations and inspection of material purchased by the Veterans Administration.

8. Integration of Military and Civilian Medical Supply Organizations

a. Certain missions common to the Armed Forces and not to the civilian medical supply agencies must be considered. The military forces must continually prepare for and be ready for a mobilization of the forces as well as carrying out the mission of providing for the care of the sick in peacetime. Certain reserves must be maintained by the Armed Forces in the form of bulk stocks and as assemblies which will be readily available in the event of mobilization. A trained nucleus of medical supply personnel must be maintained upon which may be built the medical supply organization required in the event of mobilization.

b. The medical supply organizations of the civilian agencies have but one mission, to supply the medical equipment and supplies required to care for the sick regardless of peace or war. The definite

possibility exists that in future conflict all medical agencies may well be called upon to provide medical care to civilians in the United States in the event of attack. This eventuality may have to be met in part from the reserves set up for the Armed Forces, but one medical supply system will assist by its inherent flexibility.

PART III

ANALYSIS OF THE PROBLEM

1. The functions of a medical supply included the following:

a. Development of new items.

b. Standardization of developed or selected items.

c. Cataloging.

d. Preparation and revision of specifications.

e. Determination of requirements. (In the case of the Armed Forces, this includes the determination of wartime requirements.)

f. Purchase.

g. inspection.

h. Depot stock control.

i. Operation of a depot distribution system. (In the case of the Armed Forces, this includes overseas distribution).

j. Station or hospital supply, including stock control, storage and issue, and local procurement.

k. Maintenance of equipment both in depots and in stations.

l. Stores accounting.

m. Disposition of unserviceable and excess property.

n. Maintenance of reserve stocks to meet wartime or other emergency needs.

2. All of the federal medical services revolve around three jobs: the prevention of disease, the care of the sick and injured, and research into medical problems. The emphasis placed on these jobs and the way in which they are done varies with the primary mission of the parent federal agency. The Armed Forces orient their

efforts toward preparedness for war; the Veterans Administration orients its effort toward the care of the sick and evaluation of compensible disabilities; the Public Health Service orients its work more toward research and public health. In the field of medical supply, however, this varied orientation makes relatively little difference. By and large the same supplies (drugs, dressings, etc.) and the same equipment (surgical and dental instruments, X-ray machines, hospital equipment, etc.) are used or can advantageously be used by all services. It is true that there are a few specialized items required by one service and not by all. For example, special kits may be required for use in airplanes of the Armed Force, and special sets of mobile equipment required by field forces of the Army or Marines; however, these are the exceptions rather than the rule. Even in these instances, standardization and interchangability within the Armed Forces is desirable.

At present considerable coordination is being effected between all federal medical services in the fields of development and standardization.

3. Catalogine, specifically the selection and publication of item numbers, names and descriptions, is an essential part of any supply system. Likewise, in this field, the federal medical services have already accomplished a great deal in developing common cataloging. This has been facilitated by the fact that, generally speaking, medical items can be made common for all the services. For the last two years, the Armed Services Medical Procurement Agency has published an Army-Navy Catalog of medical materiel (the next issue

will be called the Armed Services Catalog of Medical Material) and has operated a central catalog registry not only for the Army, Navy, and Air Force, but also participated in by the Veterans Administration and Public Health Service. The central registry controls all item numbers and descriptions. Any of the agencies desiring to catalog a new item apply to the registry for a number and for an "official" item description. The Veterans Administration and Public Health Service each publishes its own catalog, but the control now exercised by the registry would facilitate the publication of a "Federal Medical Catalog".

4. The Armed Services Medical Procurement Agency prepares and revises specifications for medical items for the Armed Forces. The Veterans Administration and Public Health Service each prepares its own. Inasmuch as specification work ties in very closely with cataloging, the present work of the central catalog registry encourages the coordination of specifications between all the agencies involved. In each instance, a specific item number is covered by a specific specification.

5. Each of the federal agencies involved computes and determines its own requirements for medical supplies. Requirements are broken down into two general categories: recurrent and programmed. Recurrent requirements are those needed for maintenance of supply and are in general based on past issue experience. Programmed requirements are those needed for special programs such as the equipping and stocking of a new hospital, the development of a special replacement or modernization program, or the initial equipment and supply required

for a force to be mobilized. Recurrent requirements lend themselves easily to computation by a central agency on a consolidated basis; whereas, programmed requirements, which depend on projected plans of each using agency, must be evolved unilaterally. Even in this latter category, however, the detailed computations and determination of requirements can well be handled by a central agency based on plans and data furnished by the individual agencies.

6. During the last three years, the Armed Services Medical Procurement Agency has demonstrated the practicability of and the economies resulting from a combined purchasing office.

a. The method of operation is essentially as follows:

(1) Standard items are divided into two groups: those to be purchased only once a year and those to be purchased semi-annually (the majority). This latter group is then broken down into five subgroups, each subgroup being scheduled for procurement during certain months, e. g. Subgroup I, July and January; Subgroup II, August and February, etc. Each service involved submits its requirements for each item on this schedule at the same time.

(2) Requirements are consolidated and contracts are executed. Wherever possible, one contract covers the total requirement but cites the funds of the agencies to which the supplies are to be delivered.

(3) Inspection is made without regard to whom the supplies are to be delivered.

(4) Upon delivery, vouchers for payment are certified by the central purchasing office and then processed through the fiscal

office of the receiving agency for payment.

b. No difficulties have been encountered in this procedure. Considerable savings in personnel and money have been effected. The monetary savings realized by the Armed Services Medical Procurement Agency has been estimated at $465,000.00 annually as against the Army and Navy operating separate offices, each performing these functions.

c. Certain legal difficulties stand in the way of expanding this to include the Veterans Administration and Public Health Service. At the present time the Armed Services effect procurement under Public Law 413, 80th Congress. The principal feature of this statute is that it allows negotiation of contracts, rather than formal advertising, under certain conditions and for certain kinds of supplies. The law permits the negotiation of all contracts for medicines and medical supplies, although the Armed Services take advantage of this provision only in those instances where it is deemed necessary in order to secure the quality required. It would be difficult and uneconomical to attempt consolidated procurement under one law for the Armed Services and another for the civilian agencies. Inasmuch as the Armed Services would be reluctant to surrender the advantages of Public Law 413, the practical solution would be to request Congress to expand the coverage of the law to include civilian medical agencies.

7. At present, each agency having depots operates a central depot stock control system. In the Public Health Service, which has only one depot, this system of course is very simple and required

no consolidation of data. The other three, Veterans Administration, Navy, and Army, all use the same basic principles but different methods and procedures.

a. Each has a central stock control office which receives data periodically from each depot in the form of punched electrical accounting machine (EAM) cards. This data is voluminous and detailed but includes for each item: quantity on hand, due-in, due-out, and issue experience. Data relative to procurement is also received periodically from the purchasing office. Cards are sorted and merged and passed through an electrical accounting machine which prepares a consolidated report, usually once a month, thus showing on one page for each item, all the information necessary to

(1) Determine recurrent requirements over-all and by depot.

(2) Initiate procurement and direct deliveries to proper depots and

(3) Shifts stocks between depots if necessary.

b. It would be necessary to attain two essentials before there could be a merger of the central stock control offices of the agencies involved:

(1) Common or standardized item numbers and item nomenclature.

(2) Common or standardized stock control procedures and EAM equipment. At present, Veterans Administration and the Army use IBM and Navy uses Remington Rand.

This is mentioned because if a common medical supply system be

established, this standardization would have to be effected before any actual consolidation could start.

8. A total of seventeen principal medical depots are operated by the federal medical agencies: seven by Army, five by Navy, four by Veterans Administration, and one by Public Health Service. The map (Appendix A) shows locations. It will be noted that existing depots are so located that, were they integrated into one system, the total number would not be required to secure area coverage. As of 1 July 1948, there was approximately 72 percent occupancy of total available storage space. This large amount is due, of course, to the extremely large carry-over by the Armed Forces of World War II stocks. These stocks are being consumed and within the next few years will be reduced to a level representing their maintenance requirements plus war reserves. Since 1 July 1948, the Army Medical Department has vacated two depots and plan to vacate a third depot prior to 1 July 1949. If a consolidated medical supply system were established, depots could be eliminated as stocks decreased through consumption. Probably four, certainly not less than three nor more than five depots would be required to accomplish the distribution mission for all federal medical agencies. As mentioned previously, the Armed Services will have a continuing need for war reserve stocks, and it would be necessary to maintain the depots for the storage of these stocks in the event that the distribution depots did not have adequate space to meet this extra demand. Furthermore, the Armed Forces have a continuing requirement for an assembly depot where items can be assembled into kits and chests and into larger unit

equipments up to and including General Hospitals.

The selection of ultimate depots for an integrated medical supply service would be based on the criteria of

a. Proper geographic location for distribution purposes

b. Availability of suitable buildings, and

c. The element of strategic vulnerability.

It is the opinion of the subcommittee that the present seventeen medical depots could be reduced to a total of six in the course of five or six years, thus eliminating eleven depots. There would be an obvious reduction in personnel, funds, and buildings. Attention is invited to the following Appendices of this report, which concern depots and their operation:

Appendix A is a map showing the location of depots in the United States.

Appendix B shows depot space and occupancy.

Appendix C shows personnel in various depots.

Appendix D shows the value of stocks in depots.

Appendix F shows certain over-all statistical data.

Appendix J is a summary of operating costs.

In connection with these Appendices, it is desired to point out that information is based on questionnaire submitted to each using agency. In replying, each agency may not have used exactly the same criteria; hence these figures are subject to minor revision upon further and more exhaustive detailed studies. The following general facts, however, stand out clearly. As of 1 November 1948, the various agencies in seventeen depots had approximately 5.4 million square feet of net

available storage space. Of this approximately 3.9 million square feet was occupied - a space occupancy of approximately 72 percent. Overall depot stocks amounted to approximately 177 million dollars or somewhat over four years supply at present rate of issue. If one assumes, for purposes of computation that the extremely liberal figure of six months level is required in depot stocks for normal operation, this still represents only 1/8 of the present stocks on hand. One-eighth of 3.9 million square feet occupied is approximately 400 thousand square feet of stock which would be required for this purpose, or converted into net available square feet for storage (allowing a figure of 80 percent depot occupancy) 500 thousand square feet of depot space required to take care of the normal issue demand. This of course does not include the stocks required by the Armed Services for war reserve purposes or for reserve for civil defense. If we allow the extremely liberal figure of one million feet of net available storage space required for this purpose, this still adds up to only 1-1/2 million square feet of net available depot space required for an integrated supply system. The subcommittee realizes that within the next few years, the present large stocks will be consumed by the various federal medical services, principally the Armed Forces. The subcommittee does not take the stand that the integration of the various medical supply services into one service having one depot system would necessarily reduce depot space required greatly over that which would be required under the present system of each service operating its own depot system. The principal saving in the depot system which would be

realized through consolidation into one system would be the closing of the depots; the elimination of long transportation hauls, particularly back hauls and cross hauls; and the ability to operate on smaller inventories and at the same time maintain adequate stocks in various distribution depots to satisfy demands as they arose.

Aside from the savings and economies which might be effected through the consolidation of the various depot systems, there are appreciable efficiencies and improved services which can be realized. These are as follows:

a. Improved service to using installations through being able to have in each distribution depot a practically complete stockage of all items required through normal distribution needs of the various services.

b. The ability ot shift stocks, or more preferably to shift papers to spots where stocks are located, due to the fact that all stocks would be consolidated and under one control.

c. The inestimable value of having all federal medical supplies under one control and capable of immediate mobilization to meet wartime needs, either of the military or for civil defense purposes. This last is probably the most important advantage to be gained through such a proposed integrated system.

The subcommittee has taken cognizance of the fact that the Armed Services would of necessity have to operate their own depot system or systems in overseas areas, and has not attempted to arrive at any recommendation as to how this would be done. The subcommittee

does feel that the proposed integrated system of medical depots in the United States would fit in without difficulty with any overseas supply system which the Armed Services might determine best suited to their needs. In any event, the proposed system in the United States would lay down supplies at the seacoast or at air fields for shipment overseas as the Armed Services might prescribe.

9. The problem of station or hospital supply, including stock control, storage and issue, and local procurement, is one which must be left in the hands of the agencies operating the particular stations or hospitals concerned. With the provision that forms, particularly requisition forms coming to the depot, be uniform for all services. The subcommittee sees no reason why this would result in any particularly hardship on any of the services. To prevent peaks and valleys in the work load, the depots would have to be given the authority to set up requisitioning schedules for the various hospitals and stations which they serve. Other than this, the stock control at stations and hospitals or the manner in which supplies were stored and issued, and the policies of governing local procurement would be of very minor interest only to the consolidated supply system.

10. The maintenance of medical equipment in the United States does not present serious problems. In general, medical equipment is commercial in nature. Also, in general, manufacturers and distributors throughout the United States are equipped and anxious to serve and to maintain equipment of their manufacture. The subcommittee is of the opinion that maintenance shops should be

operated in depots for such items of equipment as can be repaired more cheaply in this manner than by contracting with the manufacturers or dealers. Moreover, there is always a certain amount of unserviceable equipment in depot stocks which requires repair. All medical services, except Public Health Service presently operates maintenance shops in their depots. This policy of depot shops should continue; however, the maintenance of equipment at station-hospital level, that is whether it should be repaired locally or returned to the depot for repair, should be left largely to the individual service for determination.

11. The fiscal problems involved in stores accounting in a consolidated supply system are of considerable importance. It all medical services were consolidated under one head, and if one budget were presented to Congress covering all federal medical services, there would be no particular fiscal problem. If, however, there are, as presumably there will be, several medical services all being served by one consolidated medical supply system, and each of these medical services having its own appropriation, a comprehensive fiscal arrangement must be made. The subcommittee is of the opinion that this can best be handled by the establishment of a revolving fund under the operational control of the medical supply agency; the establishment of an "Agency" stores account in which would be included all of the recurrent-issue-demand stocks required by the various services. It would probably also be advisable to include all programmed stocks in this general stores account so that they would be "own ed" by the agency rather than being "owned" by the

individual services. If this method were adopted, then each service could defend its own budget, secure its own appropriation, and purchase the supplies it required from the consolidated agency. It would be necessary, of course, for the various medical services to apprise the supply agency periodically of the funds available for supplies, and any unusual demands or programmed requirements. If this were done, each service could maintain a liaison officer in each distribution depot. The liaison officer could not only look out for the interests of his service, but also edit requisitions and other requests from hospitals, and could "accept" accountability for the supplies as soon as they were turned over to a common carrier for shipment. In this way, rapid reimbursement to the agency could be accomplished. The operating expenses of the agency could be financed in any one of several ways:

a. By securing its own funds from Congress.

b. By charging each service its pro rata share of the expense.

c. By "selling" supplies to the services at a mark-up sufficient to cover the expenses.

d. A combination of the above.

Likewise, the cost of transporting supplies could be borne either by the agency or by the using services, as they might be determined.

12. Unserviceable and excess property would, of course, be generated continuously both at the depot level and at the station or hospital level. The general policy concerning the disposition of this property should be under the supervision of the agency.

13. As has been mentioned several times previously, it is

essential that the Armed Services maintain reserve stocks and supplies to meet the wartime or other emergency needs, particularly those for civil defense. Were it not for this fact, the consolidated supply system could operate strictly on a basis of maintaining minimum inventories with which to do the job. It is the opinion of the subcommittee that in spite of the fact that at present there are large quantities of reserve supplies on hand in depot stocks, that insufficient consideration is being given to the over-all general long-time policies concerning the establishment and maintenance of reserve stocks to meet these requirements. If the mission of the responsibility for civil defense needs were given to the military, then the whole question of maintaining the reserve stocks will be one of almost inclusive interest and responsibility of the Armed Forces. If, on the other hand, the civil defense mission of providing medical supplies for civil defense needs is turned over to a civilian agency, either now existing or to be created, the problem of developing requirements for and policies governing the acquisitions and maintenance of reserve stocks will be split between the military and civilian agency. Obviously the reserve stocks for these two emergency needs should not be left completely divorced, but all policies concerning them should be closely coordinated. Again this can best be accomplished within the structure of a consolidated medical supply service for all federal agencies. Inasmuch as medical supplies and equipment are primarily commercial in nature, and as such, are constantly being manufactured to meet ordinary government and civilian peacetime needs does not mean, however, that this problem can be neglected nor minimized. On the other hand, it is

essential that requirements be determined, and also that production potential be determined, and that reserve stocks of the established and maintained are bridging the gap getween requirements and anticipated production in the event of an emergency.

14. The analysis of the problem indicates that in the field of medical supply there is a particularly fertile ground for the development of an integrated federal medical supply system. This is due primarily to the fact that all of the federal medical services utilize essentially the same items in their work. Furthermore, there has already been a considerable amount of coordination and actual integration done in this field, particularly in the standardization of items between the various services, cataloging, and the preparation of specifications. Within the Armed Forces, there has been an actual consolidation of not only the above, but also the functions of purchase and inspection.

To date, however, no steps have been taken toward consolidating the functions of determination of requirements, depot stock control or depot distribution. It is in these fields, particularly in the depot operation field, that largest savings in personnel and in costs can be made through the establishment of an integrated federal medical supply system.

This subcommittee does not desire to go on record as predicting any actual dollar or personnel savings which can be made by establishment of such an agency. The type and general extent of the savings are obvious; however, to predict any particular savings would be dangerous because the subcommittee realizes that if the concept

herein proposed is accepted and legislation is passed to establish such a system, it may assume many forms and be subject to many compromises. Each of these variances will, of course, affect any savings which may be realized. Outline below are the fields in which appreciable savings may be anticipated:

a. PROCUREMENT:

(1) Reduction in depot inventories of the four major Federal Medical Agencies.

(2) Reduction in cost of multiple purchase actions by the four major Federal Medical Agencies.

(3) More efficient procurement with reduction in unnecessary, expensive and poorly controlled local procurement.

(4) Reduction in personnel and office space required for the operation of the present three central procurement agencies.

b. DEPOT OPERATION:

(1) Elimination of depot space available but not used.

(2) Elimination of depot space by reduction of inventories and consolidation of activities into fewer depots.

(3) Reduction in depot personnel and general overhead expenses.

c. OTHERS:

(1) Reduction in central office overhead.

(2) Consolidation of inspection activities.

(3) Standardization of items of supply.

(4) Publication of one catalog.

APPENDIX

		Page
A.	Map	54
B.	Net Depot Space Available and Occupied for the Storage of Medical Equipment and Supplies by the Four Major Federal Medical Agencies as of June 30, 1948	55
C.	Personnel Engaged in Medical Supply Activities by the Major Federal Medical Agencies in the United States	56
D.	Value of Medical Supply Stocks on Hand and Required to Maintain Authorized Depot Stock Levels	57
E.	Typical Illustration of Minor Variation of Items of Medical Supply and Packaging of Same for Use by Various Federal Medical Agencies	58
F.	Statistical Information on Federal Medical Supply Activities Submitted by Federal Agencies Fiscal Year 1948	64
G.	Analysis of Procurement Activities of Federal Medical Agencies -- Fiscal Year 1948	67
H.	Standardization of Medical Supplies and Equipment Common to Federal Medical Agencies	68
I.	Levels of Medical Supply Authorized at Depot and Station Level in the Four Medical Supply Agencies	69
J.	Operating Cost of Medical Supply Depots or Medical Supply Activities of General Depots -- Fiscal Year 1948	70

APPENDIX A



MADE IN U.S.A.
This Map is also available showing Cities.
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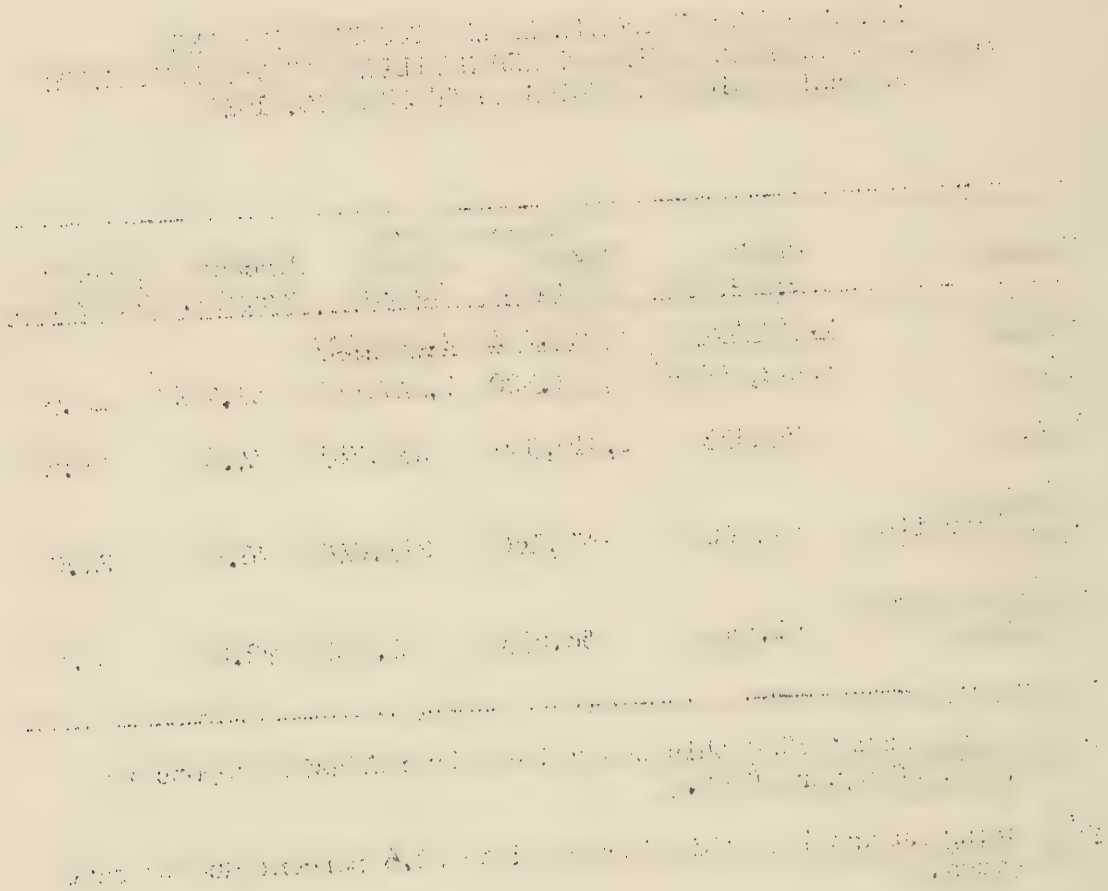
Appendix B

NET DEPOT SPACE AVAILABLE AND OCCUPIED FOR THE STORAGE OF MEDICAL EQUIPMENT AND SUPPLIES, BY THE FOUR MAJOR FEDERAL MEDICAL AGENCIES AS OF JUNE 30, 1948

Agency	(Square Feet) Space Available	Space Occupied	Space Vacant	Percent Occupied	Percent Vacant
TOTAL	5,853,692	3,946,464	2,406,227		
Army	3,142,000 a/	1,893,320	1,747,680	51.7 b/	48.3
Navy	1,759,133	1,319,349	439,783	74.6	25.4
Veterans Administration	891,000	677,160	213,840	76.0	24.0
Public Health Service	61,559	56,635	4,924	92.0	8.0

a/ During August 1948 this was reduced by releasing depots to 2,614,000 square feet.

b/ During August 1948 this increased to 62.6 percent due to same reason.



Appendix C

PERSONNEL ENGAGED IN MEDICAL SUPPLY ACTIVITIES
BY THE MAJOR FEDERAL MEDICAL AGENCIES IN
THE UNITED STATES

Agency	Central Office		Depots	
	Service	Civilian	Service	Civilian
Total	111	716	135	1,939
Army	24	110	52	962
Navy	32	60	82	547
Veterans Administration	-	214	-	411
Public Health Service	2	38	1	19
Army-Navy Medical Procurement Office	53	294	-	-

Total Service 246
Total Civilian 2,655

Appendix D

VALUE OF MEDICAL SUPPLY STOCKS ON HAND AND REQUIRED TO MAINTAIN AUTHORIZED DEPOT STOCK LEVELS

Agency	Value of Stocks on Hand (Depot)	Value of Stocks Required to Maintain Levels
Total	$177,123,140	$31,425,632
Army (inc. Air Force)	91,000,000 a/	8,190,000
Navy	59,406,136	17,000,000
Veterans Administration	26,211,116	5,729,424
Public Health Service	506,208	506,208

NOTE: Large on hand values for the Armed Forces are explained by the fact that they have retained large stocks of World War II items of medical supply which are being utilized by these agencies rather than selling them at a decided loss. Thus the values of these inventories will be gradually reduced. World War II stocks retained do not represent balanced stocks but items selected because they do not readily deteriorate or become obsolete. It is considered good business judgment to retain these stocks;however they could be better utilized if available in one medical supply system to all federal medical agencies. Further, a portion of the inventory of the Armed Services represents what is known as war reserve, this must be maintained. Certain other stocks are retained by the Army for National Guard, ROTC, Foreign Aid Programs, etc.

a/ Includes $9,291,981 of declared surplus owned by War Assets Administration and $746,437 in Foreign Aid accounts and $2,000,000 held for screening against future Foreign Aid programs.

TYPICAL ILLUSTRATION OF MINOR VARIATION OF ITEMS OF MEDICAL SUPPLY AND PACKAGING OF SAME FOR USE BY VARIOUS FEDERAL MEDICAL AGENCIES*

Item	Federal Bureau of Supply	Public Health Service	Joint Army Navy	Veterans Administration
Acetyl-Salicylic Acid (aspirin)				
1/4 lb. Bottle Crystals	1			
1/4 lb. Bottle Powder	1			
1 lb. Canister Granular	1			
1 lb. Bottle	1	1	1	1
.3 gm. (5 gr.) Tab. Bot. 100	1	1	1	
.3 gm. (5 gr.) Tab. Bot. 1000	1	1	1	1
.3 gm. (5 gr.) Tab. Bot. 5000	1	1		
.3 gm. (5 gr.) Tab.(pink) Bot. 1000				1
Alcohol, Ethyl U.S.P.				
1 qt.			1	
1/2 gal.		1		
1 gal.		1		
5 gal.	1	1	1	1
54 gal.	1	1	1	1
Amphetamine Sulfate				
.01 gm. (1/6 gr.) Bot. 100	1	1	1	1
.01 gm. (1/6 gr.) Bot. 1000	1			
.01 gm. (1/6 gr.) Bot. 1500	1	1		
.005 gm. (1/12 gr.) Pkg. 6			1	
.005 gm. (1/12 gr.) Bot. 100				1
Atropine Sulph				
.0004 gm. (1/150 gr.) H.T. Tube 20	1	1	1	1
.0004 gm. (1/150 gr.) H.T. Bot. 100	1	1		
.0004 gm. (1/150 gr.) T.T. Bot. 100	1	1		
.0006 gm. (1/100 gr.) H.T. Tube 20	1			1
.0006 gm. (1/100 gr.) H.T. Bot. 100		1		
.0012 gm. (1/50 gr.) H.T. Tube 20				1
1/8 ounce Bot. (pdr.)		1	1	1
1 ounce Bot. (pdr.)				1

Item	Federal Bureau of Supply	Public Health Service	Joint Army Navy	Veterans Administration
Bismuth-Sub-Salicylate				
Bot. 30 cc USP	1			
Bot. 60 cc USP	1	1	1	1
Bot. 480 cc USP	1			
Cascara Sagrada				
.12 gm. (2 gr.) Tab. Bot. 100	1			
.12 gm. (2 gr.) Tab. Bot. 500	1			
.12 gm. (2 gr.) Tab. Bot. 1000	1		1	
.32 gm. (5 gr.) Tab. Bot. 100	1			
.32 gm. (5 gr.) Tab. Bot. 500	1			
.32 gm. (5 gr.) Tab. Bot. 1000	1	1		1
.25 gm. (4 gr.) Tab. Bot. 100			1	
Compound Tabs. 1000		1		
Fluid Extract Arom. Pt.		1	1	1
Fluid Extract Arom. Gal.		1		1
Fluid Extract Pt.				1
Fluid Extract Gal.				1
Glyceryl-Trinitrite (Nitroglycerine)				
.0006 gm. (1/100 gr.) Tube 20				1
.0006 gm. (1/100 gr.) Bot. 100	1	1		1
.0006 gm. (1/100 gr.) Bot. 500	1			
.0006 gm. (1/100 gr.) Bot. 1000	1			
.0004 gm. (1/150 gr.) Tube 20			1	1
.0004 gm. (1/150 gr.) Bot. 100				1

Item	Federal Bureau of Supply	Public Health Service	Joint Army Navy	Veterans Administration
Magnesium Sulphate				
1 ounce Bot. A.C.S.			1	
1 lb. Bot. A.C.S.	1			
1 lb. Can USP		1		
2 1/2 lb. Can USP		1	1	
4 lb. Can USP			1	1
5 lb. Can USP	1			
25 lb. Drum USP	1			
50 lb. Drum USP			1	1
125 lb. Drum USP		1		
Petrolatum USP				
Light 1 Pt. Bot.			1	1
1 Qt. Bot.	1			
1 Gal. Can	1	1		
5 Gal. Drum	1			
Heavy 1 Qt. Can		1	1	
1 Gal. Can		1	1	1
5 Gal. Drum				1
54 Gal. Drum	1			
Potassium Permanganate				
1 Lb. Bot. USP		1	1	1
5 Lb. Bot. USP			1	1
.324 gm. (5 gr.) Tab. Bot. 100 NF	1	1	1	1
.324 gm. (5 gr.) Tab. Bot. 1000 NF	1	1		
.06 gm. (1 gr.) Tab. Bot. 100 NF	1			
.06 gm. (1 gr.) Tab. Bot. 1000 NF	1			
.12 gm. (2 gr.) Tab. Bot. 100 NF	1			
.12 gm. (2 gr.) Tab. Bot. 1000 NF	1			
.2 gm. (3 gr.) Tab. Bot. 100 NF				1

Item	Federal Bureau of Supply	Public Health Service	Joint Army Navy	Veterans Administration
Quinine Sulphate USP				
.12 gm. (2 gr.) Tab. Bot. 100	1			
.12 gm. (2 gr.) Tab. Bot. 1000	1			1
.2 gm. (3 gr.) Tab. Bot. 100	1			
.2 gm. (3 gr.) Tab. Bot. 1000	1			1
.324 gm. (5 gr.) Tab. Bot. 100	1			
.324 gm. (5 gr.) Tab. Bot. 1000		1	1	1
1 ounce Bot. Powder		1	1	1
Riboflavin				
.001 gm. (1/60 gr.) Bot. 25	1			
.001 gm. (1/60 gr.) Bot. 100	1	1	1	
.001 gm. (1/60 gr.) Bot. 500	1			
.001 gm. (1/60 gr.) Bot. 1000	1			
.005 gm. (1/12 gr.) Bot. 25	1			
.005 gm. (1/12 gr.) Bot. 100	1			
.005 gm. (1/12 gr.) Bot. 500	1			
.005 gm. (1/12 gr.) Bot. 1000	1			1
Scopolamine Hydrobromide				
.0003 gm. (1/200 gr.) Tube 20	1			
.0004 gm. (1/150 gr.) Tube 20	1			1
.0006 gm. (1/100 gr.) Tube 20	1	1	1	1
1/8 ounce Bottle		1	1	1

Item	Federal Bureau of Supply	Public Health Service	Joint Army Navy	Veterans Administration
Thiamine Chloride				
.001 gm. (1/60 gr.) Bot. 100	1			
.001 gm. (1/60 gr.) Bot. 500			1	
.001 gm. (1/60 gr.) Bot. 1000	1			
.003 gm. (1/20 gr.) Bot. 100	1			
.003 gm. (1/20 gr.) Bot. 1000	1			
.005 gm. (1/12 gr.) Bot. 50	1			
.005 gm. (1/12 gr.) Bot. 100	1			
.005 gm. (1/12 gr.) Bot. 250	1			
.005 gm. (1/12 gr.) Bot. 500		1	1	
.005 gm. (1/12 gr.) Bot. 1000	1	1		1
.01 gm. (1/6 gr.) Bot. 100	1			
.01 gm. (1/6 gr.) Bot. 1000				1
.032 gm. (1/2 gr.) Bot. 1000				1
.05 gm. (3/4 gr.) Bot. 100	1			
.1 gm. (1 1/2 gr.) Bot. 100	1			
.1 gm. (1 1/2 gr.) Bot. 1000				1

Item	Federal Bureau of Supply	Public Health Service	Joint Army Navy	Veterans Administration
Thyroid				
1/2 ounce Powder Bottle				1
1/2 lb. Powder Bottle				1
.015 gm. (1/4 gr.) Coated Tab. Bot. 100	1			
.015 gm. (1/4 gr.) Tab. Bot. 500				1
.015 gm. (1/4 gr.) Coated Tab. Bot. 1000	1	1		
.032 gm. (1/2 gr.) Tab. Bot. 100	1	1	1	1
.032 gm. (1/2 gr.) Tab. Bot. 500				1
.032 gm. (1/2 gr.) Tab. Bot. 1000				1
.032 gm. (1/2 gr.) Coated Tab. Bot. 1000		1		
.06 gm. (1 gr.) Tab. Bot. 100	1	1	1	1
.06 gm. (1 gr.) Coated Tab. Bot. 100	1			
.06 gm. (1 gr.) Coated Tab. Bot. 1000	1	1		
.12 gm. (2 gr.) Tab. Bot. 100	1			
.12 gm. (2 gr.) Coated Tab. Bot. 100	1			
.12 gm. (2 gr.) Coated Tab. Bot. 1000	1			
.2 gm. (3 gr.) Coated Tab. Bot. 100	1			
.2 gm. (3 gr.) Coated Tab. Bot 1000	1			

* These items were picked at random; they were not selected and can therefore be considered typical.

APPENDIX F

STATISTICAL INFORMATION ON FEDERAL MEDICAL SUPPLY ACTIVITIES SUBMITTED BY FEDERAL AGENCIES FISCAL YEAR 1948

		Army (including Air Force)	Navy	Public Health Service	Veterans Administration
1.	Inpatient days during past 12 months	10,537,830	6,589,815	2,834,913	29,243,542
2.	Outpatient treatments during past 12 months	12,014,000	12,073,538	1,399,319	2,498,230
3.	Number of standard items in catalog	6,788	6,125	1,531	6,926
4.	Dollar value of procurement of standard items during past 12 months	17,623,401	10,269,088	976,600	12,829,404
5.	Dollar value of procurement of nonstandard items during past 12 months	2,701,168	387,266.93	13,582,676	20,732,494
6.	(a) Number of jointly standardized items	5,387	5,305	1,250	3,887
	(b) Percent of total standard items	79%	82.9%	18%	56%
7.	Number of Medical Supply Depots in United States	9[a]	5	1	4
8.	Gross space for Medical Supply in Depot System	5,183,000[b]	2,966,703	66,764	950,600
9.	(a) Net space available for Medical Supply in Depot System	3,142,000[c]	1,759,133	61,559	891,000
	(b) Percent occupied	51.7%[d]	74.6%	92%	76%
10.	Tonnage of Medical Supplies on hand	105,750	47,708	NA	42,400
11.	Dollar value per ton	856.46	1,350	NA	619
12.	Total dollar value of Medical Supplies and equipment on hand	91,000,000[f]	59,906,136.83	506,208	26,211,116.09
13.	What is authorized stock level, expressed in months: (a) Depot	3	6	4	6
	(b) Station	2½	6	3	4

APPENDIX F (continued)

		Army (including Air Force)	Navy	Public Health Service	Veterans Administration
14.	Dollar value in Medical Supplies and Equipment necessary to maintain authorized stock level: (a) Depot	8,190,000	17,000,000	506,208	5,729,424.88
	(b) Station	6,825,000	6,800,000	NA	40,000,000
15.	Dollar value of issues during past 12 months	18,884,858	10,701,552.72	1,525,426	12,110,818
16.	Number of optical, maintenance and repair shops above hospital level	2	9	None	4
17.	Cost of operation of depots during past 12 months	3,770,951	2,564,789	94,821	1,329,000
18.	Dollar value of supplies under procurement	13,607,988	9,153,693.21		7,453,051
19.	Dollar value of central procurement for past 12 months	16,483,026	11,965,996.86	5,101,393	14,098,792
20.	Dollar value of local procurement for past 12 months	3,841,543	765,506	9,451,883	19,463,106
21.	Total procurement, central and local	20,324,569	12,722,502.86	14,553,192	33,561,898
22.	Percent central procurement	81%	94%	35%	42%
23.	Percent local procurement	19%	6%	65%	58%
24.	Medical Supply personnel in depots (a) Service	52	82	1	
	(b) Civilian	962	547	19	411
25.	Medical Supply personnel in Central Office (a) Service	24[e]/	32[e]/	2	
	(b) Civilian	110[e]/	60[e]/	38	214
26.	Total Medical Supply Personnel (a) Service	76	114	3	
	(b) Civilian	1072	607	57	625

FOOTNOTES TO APPENDIX F

a/ Reduced to 7 in August 1948.

b/ Reduced to 4,303,000 square feet in August 1948.

c/ Reduced to 2,614,000 in August 1948.

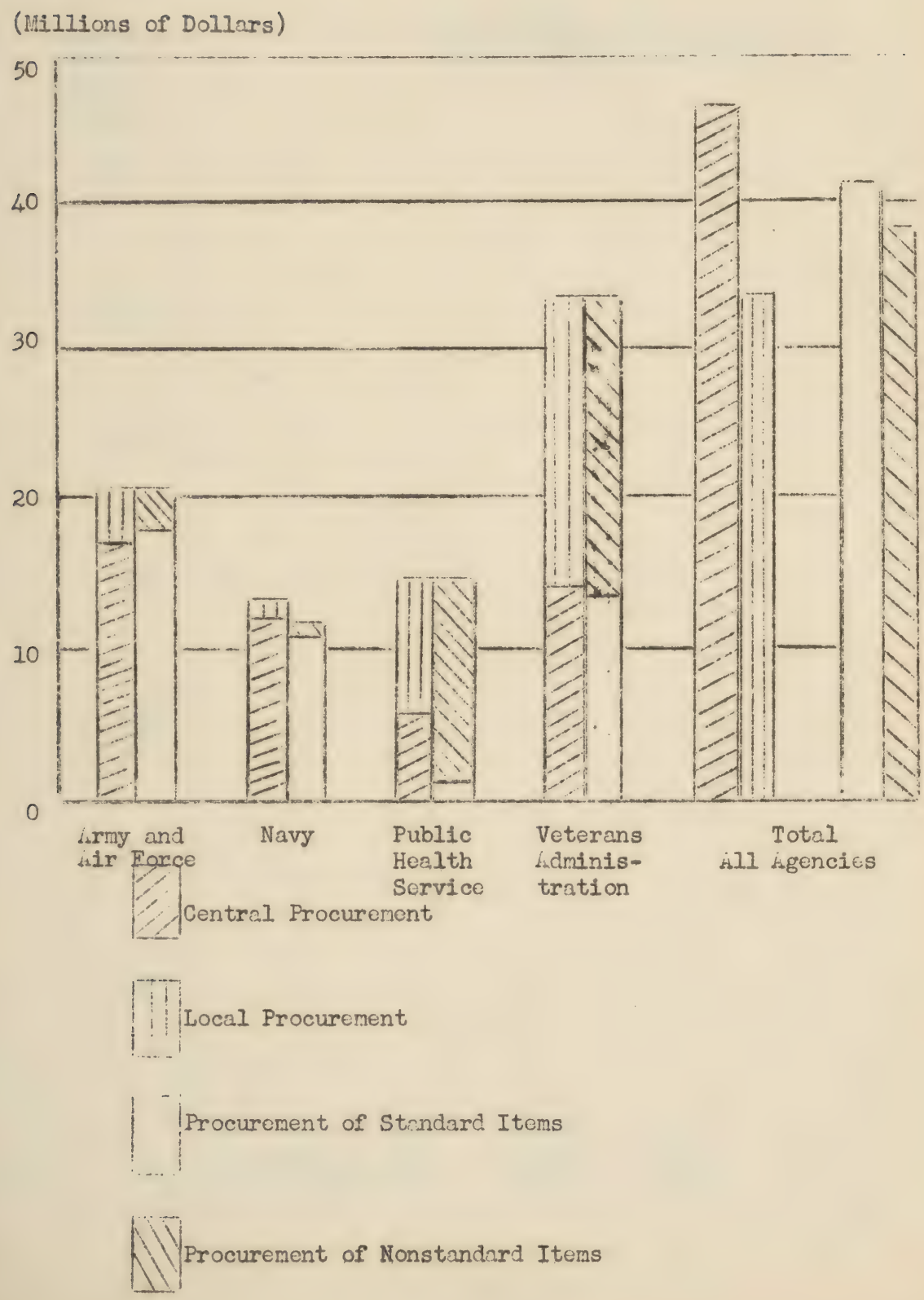
d/ Increased to 62.6 percent in August 1948.

e/ These figures do not include personnel in the Armed Services Medical Procurement Agency which are:

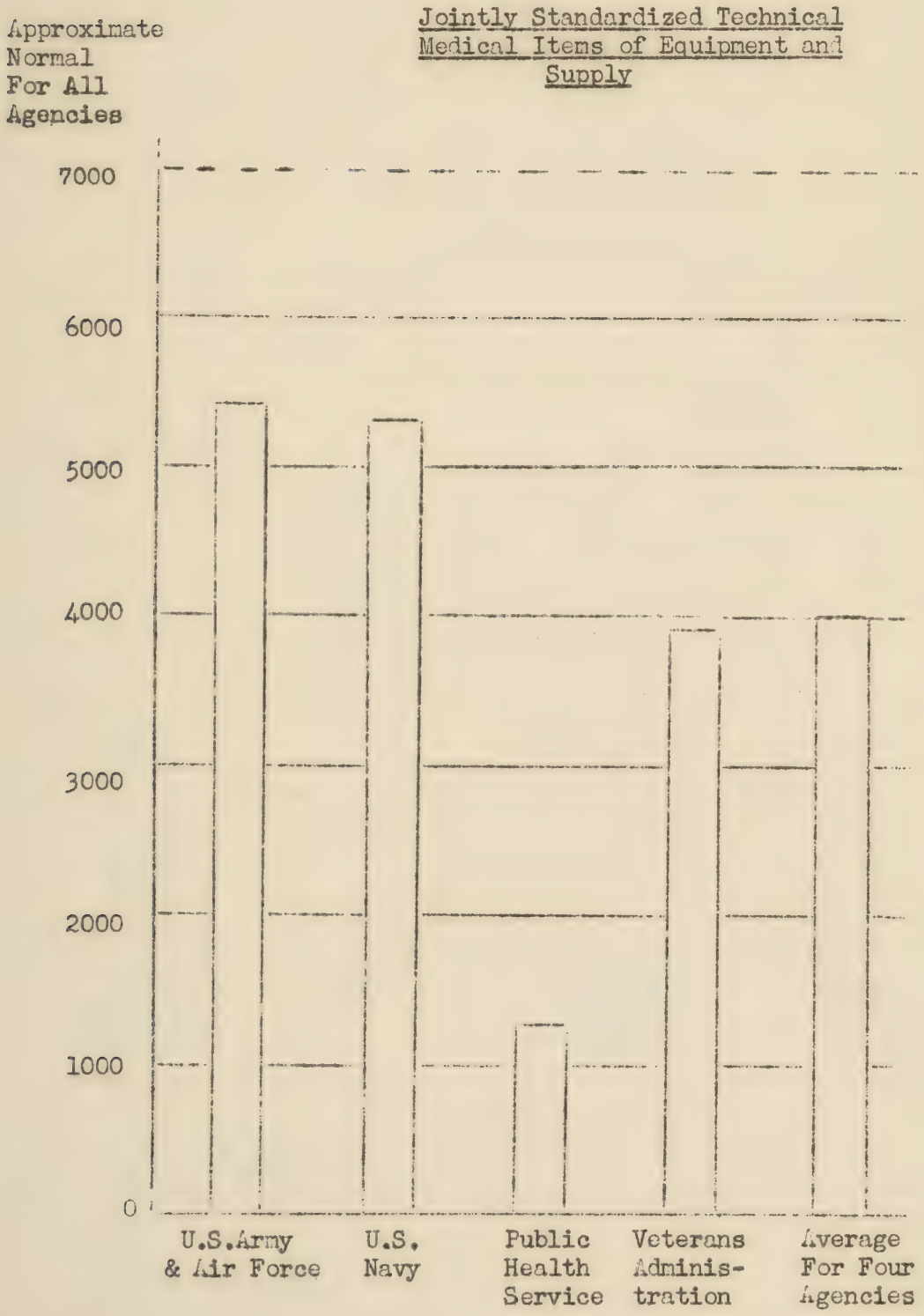
Service	53
Civilian	294

f/ Includes $9,291,981 of declared surplus owned by War Assets Administration; $746,437 in Foreign Aid accounts and $2,000,000 held for screening against future Foreign Aid programs.

ANALYSIS OF PROCUREMENT ACTIVITIES OF
FEDERAL MEDICAL AGENCIES
FISCAL YEAR 1948

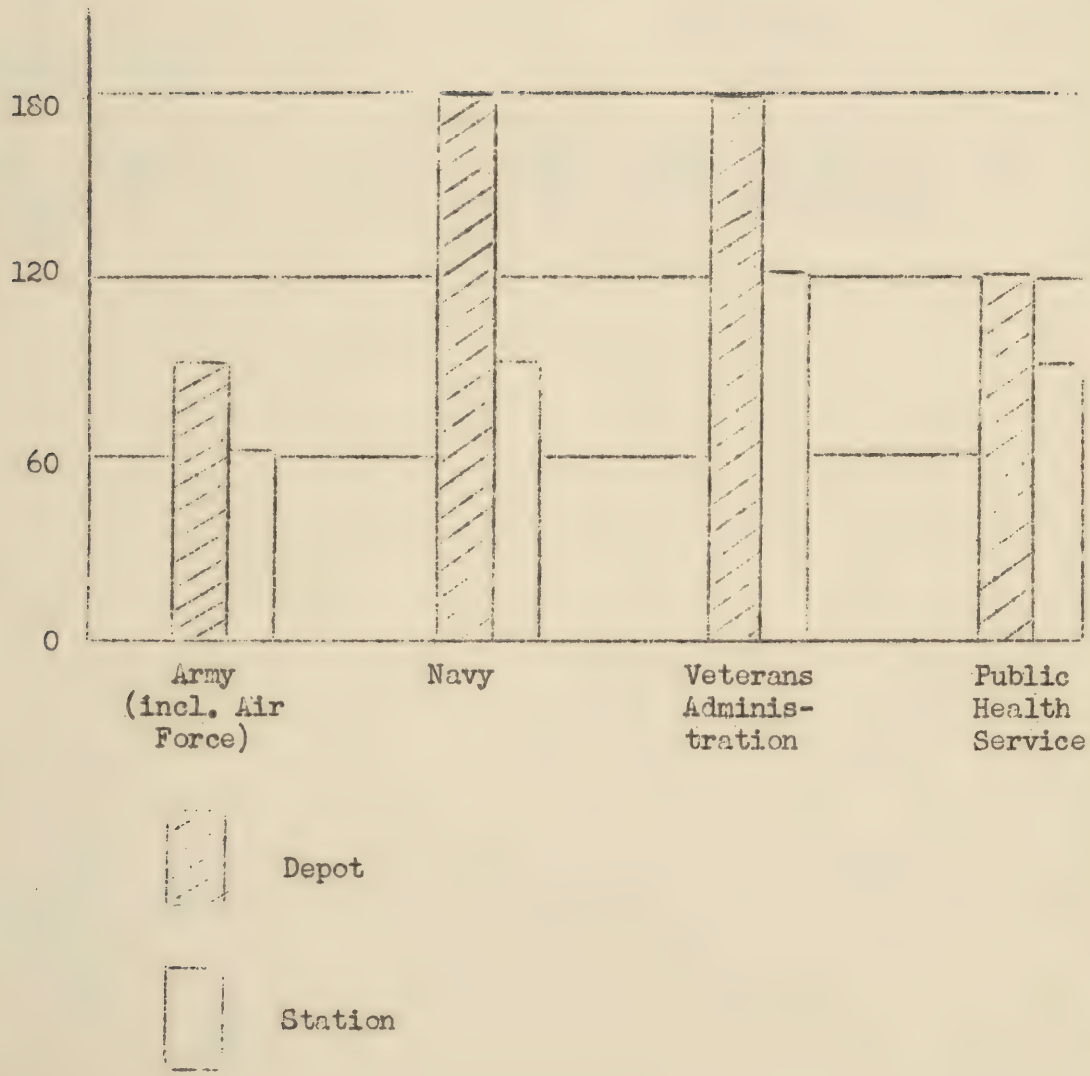


STANDARDIZATION OF MEDICAL SUPPLIES AND EQUIPMENT
COMMON TO FEDERAL MEDICAL AGENCIES



Appendix I

LEVELS OF MEDICAL SUPPLY AUTHORIZED AT DEPOT AND STATION LEVEL IN THE FOUR MAJOR MEDICAL SUPPLY AGENCIES



Appendix J

OPERATING COSTS OF MEDICAL SUPPLY DEPOTS OR MEDICAL SUPPLY ACTIVITIES OF GENERAL DEPOTS FISCAL YEAR 1948

Supply Agency	Annual Cost of Operation
Total	$7,759,570
Army	3,770,951
Navy	2,564,798
Veterans Administration	1,329,000 a/
Public Health Service	94,821

a/ Estimated because of no definite breakdown of operating cost for medical supply in Veterans Administration general supply depots.

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APPENDIX L

ACTUARIAL PROJECTIONS
COMMITTEE ON FEDERAL MEDICAL SERVICES

Prepared by Edward A. Lew,
Assistant Actuary of the
Metropolitan Life Insurance
Company, Advisor to the
Committee

November 1948

COMMISSION ON ORGANIZATION OF THE
EXECUTIVE BRANCH OF THE GOVERNMENT

APPENDIX L

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TABLE OF CONTENTS

		Page
PART A.	ESTIMATES OF THE FUTURE DEMAND FOR HOSPITALIZATION BY VETERANS	1
PART B.	TARGETS FOR PREVENTIVE MEDICINE AND RESEARCH	39
PART C.	HOSPITAL-MEDICAL INSURANCE FOR DEPENDENTS OF THE PERSONNEL OF THE ARMED FORCES AND OF FEDERAL EMPLOYEES	54

PART A

ESTIMATES OF THE FUTURE DEMAND FOR HOSPITALIZATION BY VETERANS

Basis of estimates

As a basis for estimating the future demand for hospitalization by veterans, studies were made of the three main elements determining it, namely: the future veteran population, the anticipated rates of admission to hospitals, and the probable average durations of hospitalization.

(1) Future veteran population -- Forecasts of the veteran population from 1955 through 1980 were made separately for each of the following sic categories:- veterans of World War II with and without service-connected disabilities, veterans of service prior to World War II with and without service-connected disabilities, and new veterans created by maintaining armed forces at 1,500,000 men with and without service-connected disabilities.

The following assumptions were involved in these forecasts:

(a) Veterans with service-connected disabilities were considered to include only those who at one time or another qualify for a service-connected disability pension award.

(b) The maintenance of armed forces at 1,500,000 men, recruited as at present, was considered to produce an annual increment of 400,000 new veterans, beginning in 1950. On the basis of actual post-war experience in the armed forces, it was assumed that some 17,500 out of each 400,000 new veterans would have service-connected disabilities.

(c) It was assumed that future mortality among veterans without service-connected disabilities would follow the medium mortality assumptions developed by P. K. Whelpton in his monograph "Forecasts of the Population of the United States, 1945-1975." A study of the actual mortality experienced by veterans with service-connected disabilities in recent years indicated that the same mortality assumptions were also appropriate for all veterans with service-connected neuropsychiatric and general medical and surgical conditions, and for veterans of service prior to World War II with service-connected tuberculosis. Higher mortality rates, reflecting actual experience, were used for new veterans and veterans of World War II with service-connected tuberculosis.

The initial veteran populations and their age distributions are shown in Table 8. The survival rates assumed in making the forecasts are indicated in Table 9.

(2) Anticipated rates of admission to hospitals -- In order to determine what rates of admission to hospital might reasonably be anticipated in the future, a study was made of the Veterans Administration experience during 1947 with age specific admissions for (i) tuberculosis, (ii) neuropsychiatric conditions and (iii) general medical and surgical conditions, separately for veterans with service-connected disabilities and for veterans without service-connected disabilities. The variations in the rates of admission

to Veterans Administration hospitals in the past were also noted.

Attention is called to the following characteristics of the admission rates derived from this study:-

(a) The admissions were adjusted to include not only the cases admitted to Veterans Administration hospitals but also those admitted to non-Veterans Administration hospitals when paid for by the Veterans Administration.

(b) The admission records distinguished primarily between veterans with service-connected disabilities and veterans without service-connected disabilities. Included among the admissions of veterans with service-connected disabilities were cases where a veteran with a service-connected disability was admitted for treatment of a disability that was not service-connected. The proportion of these cases was quite small for veterans with service-connected tuberculosis or neuropsychiatric conditions, but was fairly large (of the order of 25 percent) for veterans with service-connected general medical or surgical conditions. For use in forecasting future admissions, the admission rates derived from this study were appropriately adjusted so as to produce (i) admission rates for service-connected disabilities and (ii) admission rates for non-service-connected disabilities, including in the latter admissions of veterans with service-connected disabilities admitted for treatment of disabilities that were not service-connected.

(c) The fact that Veterans Administration hospitals have been practically filled to capacity in recent years was undoubtedly a restraining factor on veterans' demand for hospitalization during this period. The admission rates derived from this study reflect, therefore, a curved demand for hospitalization, at least for non-service-connected general medical and surgical conditions.

The adjusted rates of admission to hospitals used as basis for forecasting future admissions are shown in Tables10 and 10a.

(3) Probable average durations of hospitalization -- The most pertinent data for judging the effect on the patient load of future durations of hospitalization consisted of the ratios of patients remaining in hospital to admissions for tuberculosis, neuropsychiatric, and general medical and surgical patients, among (i) veterans of service prior to World War II and (ii) veterans of World War II. The ratios of patients remaining in hospital to admissions among veterans of World War II were considered to indicate the gradual growth of the patient population before the maximum durations of hospitalization are attained. The corresponding ratios among veterans of service prior to World War II were assumed to reflect the situation after the maximum durations of hospitalization have been attained.

Table 11 shows the ratios of patients remaining in hospital to admissions, derived from recent experience of the Veterans Administration. Table 12 shows the graduated ratios used in calculating the numbers of beds required to meet future veteran demand for hospitalization.

Estimates presented in tables and charts

Table 1 presents the veteran population at quinquennial intervals from 1955 to 1980. It shows separately the surviving veterans of World War II, the surviving veterans of service prior to World War II, and the surviving new veterans created by maintaining armed forces at 1,500,000 men. It should be borne in mind that the veterans with service-connected disabilities include only those who at one time or another qualify for a service-connected disability pension award.

Tables 2, 3, and 4 present the numbers of anticipated hospital admissions at quinquennial intervals from 1955 to 1980. Table 2 shows the anticipated admissions of veterans with service-connected disabilities; it should be noted that the admissions include only cases where the veteran was admitted for treatment of a service-connected disability. Table 3 shows the anticipated admissions of veterans without service-connected disabilities; it should be noted that the admissions for non-service-connected general medical and surgical conditions include a moderate proportion of cases where the veteran had a service-connected disability but was admitted for treatment of a general medical or surgical condition that was not service-connected. Table 4 shows the anticipated admissions for all veterans combined. It should further be borne in mind that these anticipated hospital admissions assume a continuation of the recent conditions affecting demand for hospitalization of non-service-connected disabilities, that is a continuation of some curb on the demand for the hospitalization of non-service connected disabilities such as was recently effective on account of the filling of Veterans Administration hospitals to

capacity. It should also be noted that a large proportion of the veteran population has in recent years preferred to seek hospitalization in private hospitals, partly because of the availability of Blue Cross and other hospitalization insurance plans.

Tables 5, 6, and 7 set forth the numbers of beds required to meet future veteran demand for hospitalization at quinquennial intervals from 1955 to 1980. It should be noted that the numbers of beds required for veterans with service-connected disabilities include only the beds required for cases admitted for treatment of service-connected disabilities; the number of beds required for veterans with non-service connected general medical and surgical conditions include a moderate proportion of beds required for cases where the veteran had a service-connected disability but was admitted for treatment of a general medical or surgical condition that was not service-connected.

In considering the figures shown in Tables 3, 4, 6, and 7 for new veterans, it should be borne in mind that the estimates assume that such new veterans without service-connected disabilities will eventually be given equal rights to hospitalization.

The trends in the numbers of beds required for the major categories of veterans are shown graphically in Charts A, B, C, D, E and F appended.

What do the estimates show

The salient points brought out in Tables 1, 2, 3, 4, 5, 6, and 7 are summarized below:

(1) Numbers of Future Veterans (Table 1)

(a) The total veteran population with service-connected

disabilities is estimated to remain at a figure over 2,000,000 for many years to come -- provided armed forces are maintained at about 1,500,000 men. Armed forces of this magnitude will produce sufficient new veterans with service-connected disabilities to offset in large degree the decrease in numbers of veterans with service-connected disabilities whose service was earned in World War II or earlier. In 1960 the new veterans will comprise seven percent of the total veteran population with service-connected disabilities and in 1980 about 25 percent.

(b) The total veteran population without service-connected disabilities will increase slowly over the years -- provided armed forces are maintained at about 1,500,000 men. The number of new veterans without service-connected disabilities produced by armed forces of this magnitude will more than offset the decrease in the numbers of veterans without service-connected disabilities whose service was earned in World War II or earlier. In 1960 the new veterans will account for about 20 percent of the veteran population without service-connected disabilities but in 1980 they will comprise more than half of all such veterans.

(c) If armed forces are maintained at about 1,500,000 men, the total veteran population will keep on increasing -- from about 20,000,000 at the present time to nearly 23,000,000 in 1960 and almost 24,500,000 in 1980.

(2) Numbers of Anticipated Hospital Admissions (Tables 2, 3, and 4).

(a) The admissions for all service-connected disabilities may be expected to decrease gradually. The admissions for tuberculosis are likely to decrease to about one-third their present level by 1970. The admissions for mental conditions are anticipated to remain at somewhat above their present level for many years to come. The admissions for general medical and surgical conditions are expected to decrease slightly over the years. However, the admissions for chronic diseases included in this category will probably increase with the passage of time. As a result, the aggregate number of admissions for service-connected tuberculosis, mental conditions, and other chronic conditions may stabilize at about 35,000 cases a year.

(b) New veterans will not be an important factor in the admissions for service-connected disabilities in the near future.

(c) The admissions for all nonservice-connected cases may be anticipated to increase substantially over the years, if armed forces are maintained at about 1,500,000 men. Even the admissions of veterans of World War II and earlier service are likely by 1980 to increase by over a third. Total admissions for tuberculosis are likely to double by 1980; those for mental conditions are anticipated to increase by 70 percent, while those for general medical and surgical conditions may nearly double by 1980. The aggregate number of admissions for nonservice-connected tuberculosis, mental conditions, and other chronic diseases may also nearly double by 1980.

(d) New veterans will not be a very important factor in the admissions for nonservice-connected disabilities in the near future.

(3) Number of Beds Required (Tables 5, 6, and 7).

(a) The number of beds needed for service-connected disabilities is estimated to increase from about 35,000 at present to some 96,000 by 1980. The patient load due to service-connected tuberculosis cases may be expected to decline by 1980 to less than a third of the present 6,000 figure. The load due to service-connected general medical and surgical conditions is likely to stabilize at a figure not much above the present level of 5,000. Thus, the entire increase in the service-connected patient load by 1980 can be attributed to the

anticipated almost fourfold increase in mental cases (from about 24,000 at present to nearly 90,000 in 1980). The service-connected mental cases are expected to average about six years' stay in hospital; this is an important factor in the accumulation of such patients in hospital.

(b) Of the service-connected patient load in 1960, new veterans will comprise only about 5 percent; in 1980 about 13 percent of the service-connected patient load will be due to new veterans.

(c) The number of beds needed for non-service-connected disabilities is estimated to increase from 68,000 at present to some 210,000 by 1980. The patient load due to non-service-connected tuberculosis cases may be expected to rise from 7,000 at present to 17,000 by 1980; included in the latter figure will be 4,700 new veterans. The load due to non-service-connected mental cases is anticipated to increase from 32,000 at present to over 110,000; included in the latter figure will be 23,000 new veterans. The non-service-connected mental cases are expected to average about two years in hospital; this is one of the reasons for the accumulation of such patients in hospital. The load due to non-service-connected general medical and surgical cases is anticipated to increase from 30,000 at present to over 82,000 by 1980; included in the latter figure will be 21,000 new veterans.

(d) Of the non-service-connected patient load in 1960, new veterans will comprise only about 8 percent; in 1980 about 23 percent of the non-service-connected patient load will be due to new veterans.

(e) It is estimated that from 15 percent to 35 percent of the non-service-connected general medical and surgical patients could be regarded as chronic cases; the lower percentage would apply to World War II veterans at the present time while the higher percentage would now apply to World War I veterans and to World War II veterans twenty years hence.

(f) The total number of beds required for veterans with tuberculosis (whether service-connected or not) is expected to rise from about 13,000 at present to nearly 19,000 in 1980, of which 5,600 would be for new veterans.

(g) The total number of beds required for veterans with mental conditions (whether service-connected or not) is anticipated to increase from 55,000 at present to about 200,000 in 1980, of which nearly 35,000 would be for new veterans.

(h) The total number of beds required for veterans with general medical and surgical conditions (whether service-connected or not) is expected to increase from 35,000 at present to nearly 88,000 in 1980, of which 22,000 would be for new veterans.

(i) The aggregate number of beds required for all veterans with service-connected disabilities and for veterans with non-service-connected tuberculosis, mental and other chronic diseases are shown on the following page.

	Service-Connected Cases	Non-service tuberculosis, mental and other chronic disease cases	Total service-connected cases and chronic non-service-connected cases
1955	49,000	71,000	120,000
1960	62,000	90,000	152,000
1965	75,000	110,000	185,000
1970	87,000	128,000	215,000
1975	98,000	149,000	247,000
1980	96,000	154,000	250,000

Developments affecting reliability of forecasts

The reliability of any forecasts depends in large measure on the reasonableness of the underlying assumptions as to future experience. The estimates here presented will portray the future patient load accurately only to the extent that the indicated assumptions as to the numbers of future veterans, as to the rates of admission to hospitals, and as to the average durations of hospitalization are actually realized in the future.

Some of the developments that could materially alter the magnitude of the future patient load are discussed below.

(1) Changes in the numbers of new veterans

The forecasts of the numbers of new veterans assume not only the maintenance of armed forces at 1,500,000 men but also continued resort to the draft, an average period of enlistment of about three years and approximately 20 percent reenlisting at the end of each three-year term of enlistment. These circumstances will, after the first two or three years, produce an annual increment of about 400,000 new veterans. If the strength of the armed forces were increased or decreased but the present method of

recruiting retained, the numbers of new veterans would be proportionately affected. However, if service in the armed forces became more of a career service, a higher proportion of men would probably reenlist and relatively fewer new veterans would be created.

The numbers of new veterans, of hospital admission among them, and of the patient load they produce are all shown separately in the appended tables. It is, therefore, possible to determine readily what the admissions and the patient load would be for larger or smaller numbers of new veterans. For instance, the hospital admissions and patient load resulting from another war of the magnitude of World War II could be approximated from the corresponding figures for World War II veterans.

(2) Variations in admission rates to hospital

The admission rates to hospital used in the estimates here presented are based on actual Veterans Administration experience during 1947. They reflect the characteristic age specific incidence of tuberculosis, mental disease, and general medical and surgical conditions among the major categories of veterans, modified by the limited availability of beds for non-service-connected general medical and surgical conditions.

It is extremely important to bear in mind that the filling of Veterans Administration hospitals to capacity has had the effect of curbing veterans' demand for hospitalization of non-service-connected general medical and surgical conditions and that the

admission rates based on recent experience reflect such a restraint on demand. If this restraint were removed, admission rates for non-service-connected general medical and surgical conditions would undoubtedly increase appreciably. The use of admission rates based on recent experience assumes that in the future hospital facilities will be built up so as to lag somewhat behind veterans' demand for hospitalization.

Current surveys of the hospital admissions in several localities indicate that a substantial proportion of the veteran population now turns to private hospitals for hospitalization, partly because of the widespread availability of Blue Cross and other hospitalization insurance plans. There is evidence that even as far back as 1935-36 over 30 percent of all veterans sought hospitalization in private hospitals at their own expense. It should be noted, however, that private hospitals have provided hospitalization predominantly for acute medical and surgical conditions.

It is probable that a large proportion of the veterans who now pay for their own hospitalization in private hospitals would turn to the Veterans Administration in event of another prolonged depression. In 1932 the admissions to Veterans Administration hospitals were about 40 percent higher and the patient load about 20 percent higher than might have otherwise been expected. The tuberculosis patient load was not affected, but mental patients increased about 20 percent and the general medical and surgical patient load increased over

80 percent. It is possible that in event of another prolonged depression the increase in mental patients and in the general medical and surgical patient load may be even greater, if only because of more acute awareness of mental disorders and of the presently higher proportion of older men subject to unemployment and to disabling diseases.

(3) Changes in average durations of hospitalization

The average durations of hospitalization implicit in the ratios of patients remaining in hospital to admissions used in making the estimates of future patient load were as follows:

Type of Case	Average Hospital Stay
Tuberculosis	219 days
Mental Cases	
Service-Connected	6 years
Non-Service-Connected	2 years
General Medical and Surgical	40 days

The ratios of patients remaining in hospital to admissions shown in Table 12 reflect the gradual accumulation of patients in the case of new veterans and veterans of World War II.

Generally speaking, the number of beds required would be decreased about in proportion to any reduction in average duration of hospitalization. Barring the discovery of a strikingly effective new treatment for tuberculosis, there does not seem to be much prospect of any reduction in the average duration of hospitalization of tuberculosis cases, since, as it is, too many tuberculous veterans leave hospital against medical advice. Also, there appears to be little likelihood of any marked reduction in the average duration of hospitalization of general medical and surgical cases, since an

increasing proportion of the longer duration chronic patients is to be anticipated among them, and this will tend to offset any gains from shorter hospitalization of other general medical and surgical cases. The best chance for reducing the number of beds required would appear to lie in measures designed to shorten the rather long duration of hospitalization of mental cases.

Another development that might be considered is the possibility of a transfer of some mental and other chronic cases from hospitals to special old age and nursing homes. In 1975 over 20 percent of the mental patients will be 65 years of age or older. Any such transfer could, of course, materially reduce the hospital patient load.

Principal Conclusions

The principal conclusions to be drawn from the figures presented and the considerations outlined above are as follows:

1. The service-connected patient load which stands at present at 35,000 is likely to increase to some 50,000 in 1955 and to nearly 100,000 in 1975. About 10,000 beds may be required in 1975 for new veterans with service-connected disabilities.

2. Over 80 percent of the beds required for service-connected cases in 1955 and over 90 percent in 1975 will be needed for mental patients.

3. The non-service-connected patient load will depend largely on the hospital facilities which the Veterans Administration has available. Assuming that such facilities are increased gradually so as to lag somewhat behind veterans' demand for hospitalization (as has been the case in recent years), then the number of non-service-connected cases in hospital may be expected to rise from 68,000 at

the present time to about 100,000 in 1955 and to nearly 200,000 in 1975. About 5,000 beds may be required in 1955 and over 35,000 beds in 1975 for new veterans with non-service-connected disabilities.

4. If the hospitalization of non-service-connected cases were restricted to tuberculosis, mental and other chronic cases, then the number of beds required for this purpose might be expected to increase from 45,000 at the present time to over 70,000 in 1955 and to nearly 150,000 in 1975. The number of beds required for non-service-connected chronic cases among new veterans will be relatively small.

5. About 50 percent of all the beds required for non-service-connected cases (or about 70 percent of the beds required for non-service-connected chronic cases) will be needed for mental patients.

6. In the event of a prolonged business depression, the veteran patient load might temporarily increase by as much as 20 percent or more over the normal trend. Mental patients would probably increase in about the same proportion, but the largest increase would be in general medical and surgical cases.

7. Because of the preponderance of mental cases in the veteran patient load and because of the relatively long average duration of hospitalization of such cases (about 6 years for service-connected cases and about 2 years for non-service-connected cases) the best chance for reducing the veteran patient load would seem to lie in keeping down the admission rates and shortening the average stay in hospital of mental cases.

8. The magnitude of the anticipated veteran patient load and the serious problems that it raises indicate that there was no adequate appraisal made of the resources necessary to implement the commitments made to veterans in the past. A careful evaluation of the personnel, facilities, and funds needed to carry out any long-range program of medical services should be a prerequisite to the adoption of any such program.

TABLE 1

ESTIMATE OF THE NUMBERS OF FUTURE VETERANS

Veterans with Service-Connected Disabilities*

	World War II	Service Prior to World War II	New Veterans**	Total
1955	2,185,000	334,000	104,000	2,623,000
1960	2,127,000	281,000	189,000	2,597,000
1965	2,052,000	219,000	274,000	2,545,000
1970	1,949,000	154,000	357,000	2,460,000
1975	1,804,000	94,000	438,000	2,336,000
1980	1,603,000	49,000	519,000	2,171,000

Veterans without Service-Connected Disabilities

	World War II	Service Prior to World War II	New Veterans**	Total
1955	13,402,000	3,590,000	2,283,000	19,275,000
1960	13,089,000	3,044,000	4,166,000	20,299,000
1965	12,675,000	2,418,000	6,028,000	21,121,000
1970	12,104,000	1,749,000	7,866,000	21,719,000
1975	11,296,000	1,121,000	9,667,000	22,084,000
1980	10,183,000	627,000	11,423,000	22,233,000

All Veterans

	World War II	Service Prior to World War II	New Veterans**	Total
1955	15,587,000	3,924,000	2,387,000	21,898,000
1960	15,216,000	3,325,000	4,355,000	22,896,000
1965	14,727,000	2,637,000	6,302,000	23,666,000
1970	14,053,000	1,903,000	8,223,000	24,179,000
1975	13,100,000	1,215,000	10,105,000	24,420,000
1980	11,786,000	676,000	11,942,000	24,404,000

* This category includes only veterans who at one time or another qualify for a disability pension award for a service-connected disability

** Assumes that Armed Forces continue at a strength of 1,500,000, recruited as at present.

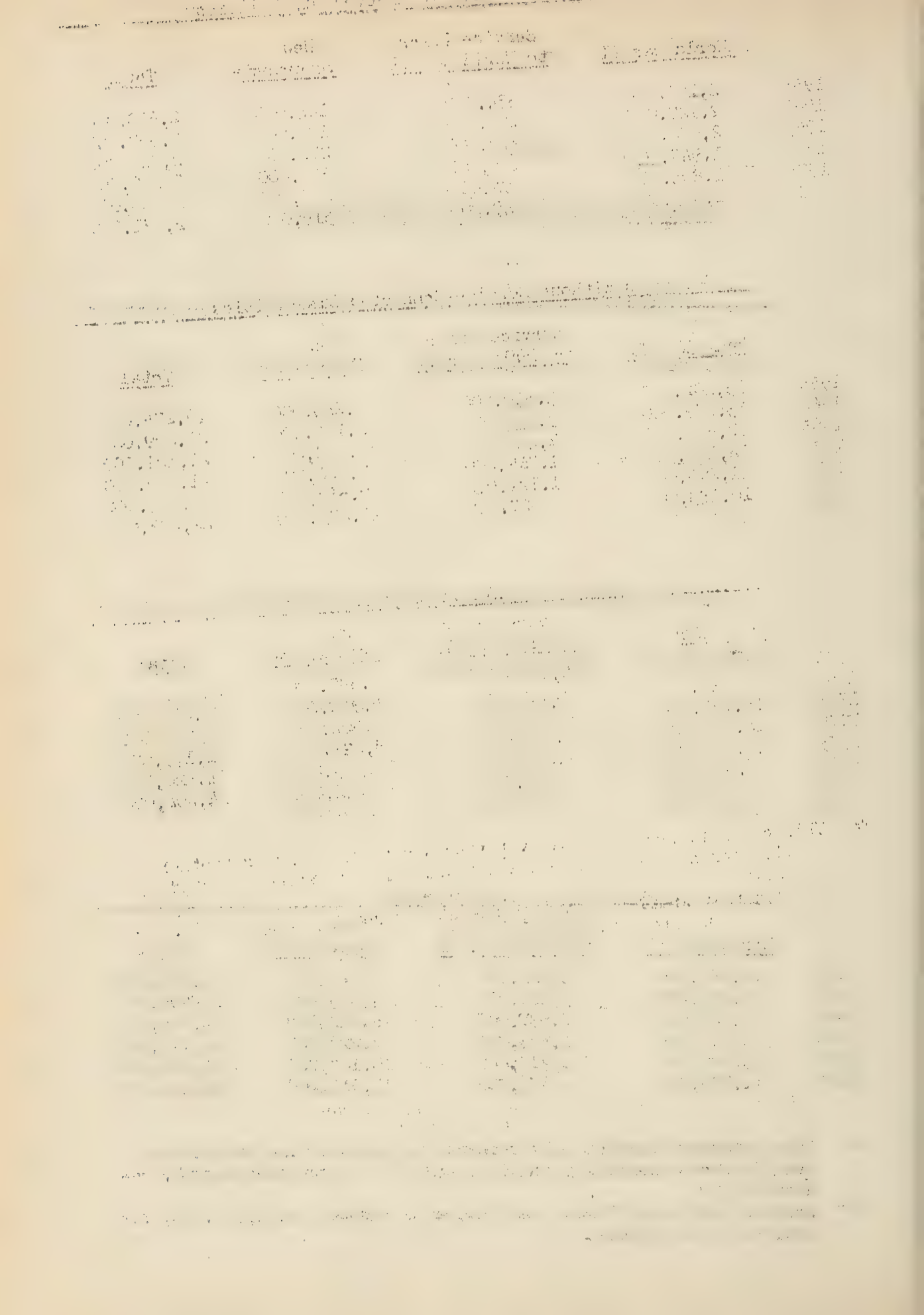


TABLE 2

ESTIMATE OF THE FUTURE VETERAN ADMISSIONS TO HOSPITAL

	Veterans with Service-Connected Disabilities*			
	World War II	Service Prior to World War II	New Veterans**	Total
Tuberculosis				
1955	4,700	1,600	1,000	7,300
1960	2,900	1,800	1,200	5,900
1965	1,800	1,900	1,300	5,000
1970	1,000	1,600	1,300	3,900
1975	600	1,100	1,300	3,000
1980	600	600	1,500	2,700
Neuropsychiatric				
1955	14,100	1,900	1,000	17,000
1960	13,800	1,800	1,800	17,400
1965	13,400	1,700	2,500	17,600
1970	13,000	1,500	3,200	17,700
1975	12,600	1,200	4,000	17,800
1980	12,200	800	4,700	17,700
General Medical and Surgical				
1955	49,800	7,000	2,500	59,300
1960	46,600	6,600	4,300	57,500
1965	43,900	6,200	5,900	56,000
1970	41,500	5,400	7,500	54,400
1975	39,400	4,000	8,900	52,300
1980	37,800	2,400	10,300	50,500
Total				
1955	68,600	10,500	4,500	83,600
1960	63,300	10,200	7,300	80,800
1965	59,100	9,800	9,700	78,600
1970	55,500	8,500	12,000	76,000
1975	52,600	6,300	14,200	73,100
1980	50,600	3,800	16,500	70,900

* This category includes only veterans who at one time or another qualify for a disability pension award for a service-connected disability.

** Assumes that Armed Forces continue at a strength of 1,500,000 recruited as at present.

TABLE 3

ESTIMATE OF THE FUTURE VETERAN ADMISSIONS TO HOSPITAL

	Veterans without Service-Connected Disabilities*			
	World War II	Service Prior to World War II	New Veterans**	Total
Tuberculosis				
1955	8,300	6,500	1,000	15,800
1960	10,100	6,300	1,900	18,300
1965	12,600	5,500	2,900	21,000
1970	15,500	4,300	4,100	23,900
1975	17,900	3,000	5,700	26,600
1980	18,900	1,800	7,900	28,600
Neuropsychiatric				
1955	34,600	13,500	4,900	53,000
1960	35,500	13,200	9,400	58,100
1965	36,100	12,500	14,200	62,800
1970	36,900	10,900	19,100	66,900
1975	37,700	8,500	24,100	70,300
1980	38,200	5,800	29,200	73,200
General Medical and Surgical				
1955	270,400	177,800	41,200	489,400
1960	286,400	188,200	76,200	550,800
1965	309,800	172,100	112,700	594,600
1970	350,200	145,600	150,500	646,300
1975	410,500	109,400	189,700	709,600
1980	488,100	68,700	233,000	789,800
Total				
1955	313,300	197,800	47,100	558,200
1960	332,000	207,700	87,500	627m200
1965	358,500	190,100	129,800	678,400
1970	402,600	160,800	173,700	737,100
1975	466,100	120,900	219,500	806,500
1980	545,200	76,300	270,100	891,600

* The category of veterans with service-connected disabilities includes only veterans who at one time or another qualify for a disability pension award for a service-connected disability.

** Assumes that Armed Forces continue at a strength of 1,500,000, recruited as at present.

TABLE 4

ESTIMATE OF THE FUTURE VETERAN ADMISSIONS TO HOSPITAL

	All Veterans			
	World War II	Service Prior to World War II	New Veterans**	Total
Tuberculosis				
1955	13,000	8,100	2,000	23,100
1960	13,000	8,100	3,100	24,200
1965	14,400	7,400	4,200	26,000
1970	16,500	5,900	5,400	27,800
1975	18,500	4,100	7,000	29,600
1980	19,500	2,400	9,400	31,300
Neuropsychiatric				
1955	48,700	15,400	5,900	70,000
1960	49,300	15,000	11,200	75,500
1965	49,500	14,200	16,700	80,400
1970	49,900	12,400	22,300	84,600
1975	50,300	9,700	28,100	88,100
1980	50,400	6,600	33,900	90,900
General Medical and Surgical				
1955	320,200	184,800	43,700	548,700
1960	333,000	194,800	80,500	608,300
1965	353,700	178,300	118,600	650,600
1970	391,700	151,000	158,000	700,700
1975	449,900	113,400	198,600	761,900
1980	525,900	71,100	243,300	840,300
Total				
1955	381,900	208,300	51,600	641,800
1960	395,300	217,900	94,800	708,000
1965	417,600	199,900	139,500	757,000
1970	458,100	169,300	185,700	813,100
1975	518,700	127,200	233,700	879,600
1980	595,800	80,100	286,600	962,500

** Assumes that Armed Forces continue at a strength of 1,500,000, recruited as at present.

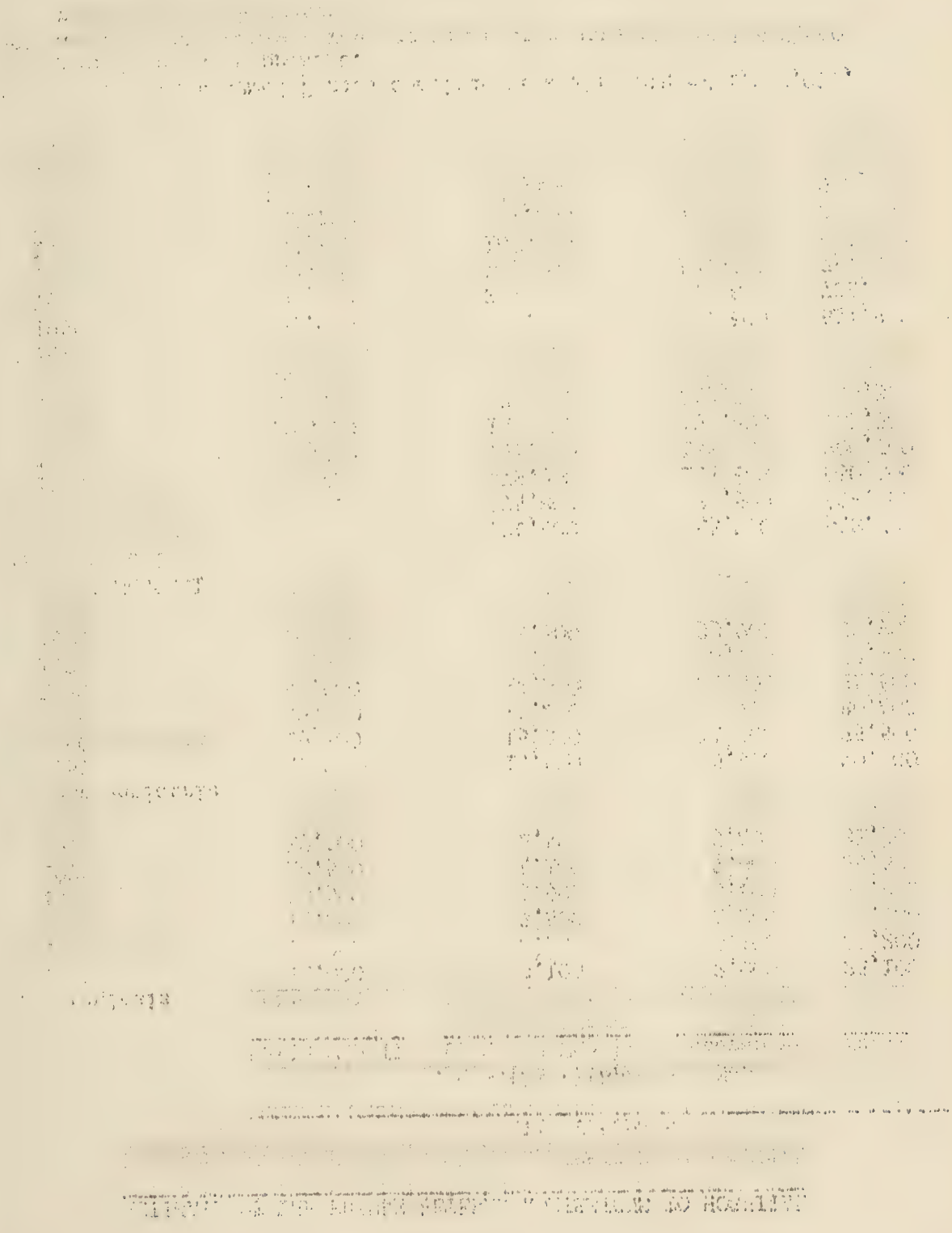


TABLE 5

ESTIMATE OF THE NUMBERS OF BEDS REQUIRED TO MEET FUTURE VETERAN DEMAND FOR HOSPITALIZATION

	Veterans with Service-Connected Disabilities			
	World War II	Service Prior to World War II	New Veterans**	Total
Tuberculosis				
1955	2,800	900	600	4,300
1960	1,800	1,100	700	3,600
1965	1,100	1,100	700	2,900
1970	600	1,000	800	2,400
1975	400	700	800	1,900
1980	400	400	900	1,700
Neuropsychiatric				
1955	28,200	11,100	900	40,200
1960	41,400	10,600	2,100	54,100
1965	53,700	9,900	3,800	67,400
1970	65,000	8,900	5,800	79,700
1975	75,500	7,100	8,300	90,900
1980	73,000	4,800	11,200	89,000
General Medical and Surgical				
1955	3,700	800	200	4,700
1960	3,700	700	300	4,700
1965	4,000	700	400	5,100
1970	4,200	600	600	5,400
1975	4,300	400	800	5,500
1980	4,200	300	900	5,400
Total				
1955	34,700	12,800	1,700	49,200
1960	46,900	12,400	3,100	62,400
1965	58,800	11,700	4,900	75,400
1970	69,800	10,500	7,200	87,500
1975	80,200	8,200	9,900	98,300
1980	77,600	5,500	13,000	96,100

* This category includes only veterans who at one time or another qualify for a disability pension award for a service-connected disability.

** Assumes that Armed Forces continue at a strength of 1,500,000, recruited as at present.

TABLE 6

ESTIMATE OF THE NUMBERS OF BEDS REQUIRED TO MEET FUTURE VETERAN DEMAND FOR HOSPITALIZATION

	Veterans without Service-Connected Disabilities*			
	World War II	Service Prior to World War II	New Veterans**	Total
Tuberculosis				
1955	5,000	3,900	600	9,500
1960	6,000	3,800	1,100	10,900
1965	7,500	3,300	1,700	12,500
1970	9,300	2,600	2,400	14,300
1975	10,700	1,800	3,400	15,900
1980	11,300	1,100	4,700	17,100
Neuropsychiatric				
1955	22,500	26,900	1,500	50,900
1960	35,500	26,500	3,800	65,800
1965	48,800	25,000	7,100	80,900
1970	60,800	21,900	11,500	94,200
1975	75,300	17,000	16,800	109,100
1980	76,500	11,600	23,300	111,400
General Medical and Surgical				
1955	20,300	19,600	2,700	42,600
1960	22,900	20,700	5,300	48,900
1965	27,900	18,900	8,500	55,300
1970	35,000	16,000	12,000	63,000
1975	45,200	12,000	16,100	73,300
1980	53,700	7,600	21,000	82,300
Total				
1955	47,800	50,400	4,800	103,000
1960	64,400	51,000	10,200	125,600
1965	84,200	47,200	17,300	148,700
1970	105,100	40,500	25,900	171,500
1975	131,200	30,800	36,300	198,300
1980	141,500	20,300	49,000	210,800

* The category of veterans with service-connected disabilities includes only veterans who at one time or another qualify for a disability pension award for a service-connected disability.

** Assumes that Armed Forces continue at a strength of 1,500,000 recruited as at present.

TABLE 7

ESTIMATE OF THE NUMBERS OF BEDS REQUIRED TO MEET FUTURE VETERAN DEMAND FOR HOSPITALIZATION

	All Veterans			
	World War II	Service Prior to World War II	New Veterans**	Total
Tuberculosis				
1955	7,800	4,800	1,200	13,800
1960	7,800	4,900	1,800	14,500
1965	8,600	4,400	2,400	15,400
1970	9,900	3,600	3,200	16,700
1975	11,100	2,500	4,200	17,800
1980	11,700	1,500	5,600	18,800
Neuropsychiatric				
1955	50,700	38,000	2,400	91,100
1960	76,900	37,100	5,900	119,900
1965	102,500	34,900	10,900	148,300
1970	125,800	30,800	17,300	173,900
1975	150,800	24,100	25,100	200,000
1980	149,500	16,400	34,500	200,400
General Medical and Surgical				
1955	24,000	20,400	2,900	47,300
1960	26,600	21,400	5,600	53,600
1965	31,900	19,600	8,900	60,400
1970	39,200	16,600	12,600	68,400
1975	49,500	12,400	16,900	78,800
1980	57,900	7,900	21,900	87,700
Total				
1955	82,500	63,200	6,500	152,200
1960	111,300	63,400	13,300	188,000
1965	143,000	58,900	22,200	224,100
1970	174,900	51,000	33,100	259,000
1975	211,400	39,000	46,200	296,600
1980	219,100	25,800	62,000	306,900

** Assumes that Armed Forces continue at a strength of 1,500,000, recruited as at present.

TABLE 8

POPULATION USED IN ESTIMATING THE NUMBERS
OF FUTURE VETERANS
Veterans of World War II and Prior Service

	Number as of June 30, 1947			
	Veterans of World War II		Veterans of Service Prior to World War II	
All Veterans	16,051,000		4,684,000	
	with Service Connected Disability*	without Service Connected Disability	with Service Connected Disability*	without Service Connected Disability
TYPE OF DISABILITY				
Total	2,260,000	13,791,000	400,000	4,284,000
Tuberculosis	41,000		58,000	
Neuropsychiatric	581,000		78,000	
General Medical and Surgical	1,638,000		264,000	
AGE DISTRIBUTION AS OF JUNE 30, 1947***				
Total	2,260,000	13,791,000	400,000	4,284,000
15 - 19	3,744	463,339		
20 - 24	493,016	4,214,742	226	831
25 - 29	781,873	4,253,326	5,686	30,942
30 - 34	493,593	2,479,052	6,831	130,318
35 - 39	305,943	1,332,864	6,063	164,634
40 - 44	133,232	664,502	6,585	169,237
45 - 49	35,479	295,171	46,431	508,067
50 - 54	10,588	61,640	183,429	1,907,881
55 - 59	1,959	15,696	107,288	980,715
60 - 64	480	5,765	27,554	191,523
65 - 69	93	4,903	6,537	87,879
70 - 74	-	-	2,071	79,437
75 - 79	-	-	869	24,694
80 - 84	-	-	315	6,296
85 - 89	-	-	94	1,261
90 - 94	-	-	19	263
95 - 99	-	-	2	22

TABLE 8 (Continued)

POPULATION USED IN ESTIMATING THE NUMBERS OF FUTURE VETERANS

	New Veterans** Number of Entrants on June 30, 1950 and Annually thereafter	
Total	400,000	
	with Service Connected Disability*	without Service Connected Disability
TYPE OF DISABILITY		
Total	17,492	382,508
Tuberculosis	875	
Neuropsychiatric	6,122	
General Medical and Surgical	10,495	
AGE		
Total	17,492	382,508
15 - 19		
20 - 24	15,109	338,631
25 - 29	2,210	40,989
30 - 34	147	2,474
35 - 39	26	405
40 - 44	-	9

* The category of veterans with service-connected disabilities includes only veterans who at one time or another qualify for a service-connected disability pension award.

** Assumes that Armed Forces continue at a strength of 1,500,000, recruited as at present.

*** Actual estimates of the numbers of future veterans were based on individual age distributions.

TABLE 9

PROJECTED 5-YEAR SURVIVAL RATES* USED IN ESTIMATING THE NUMBERS OF FUTURE VETERANS**

Age at Beginning of Period	1945-1950	1950-1955	1955-1960	1960-1965	1965-1970	1970-1975	1975-1980
15 - 19	991.2	992.3	993.1	993.6	994.2	994.5	994.8
20 - 24	988.2	989.7	990.7	991.6	992.3	992.9	993.5
25 - 29	986.1	987.7	989.0	990.0	990.8	991.4	992.0
30 - 34	981.8	983.8	985.4	986.6	987.6	988.4	989.2
35 - 39	974.6	977.3	979.5	981.0	982.4	983.4	984.4
40 - 44	963.4	968.0	971.7	974.2	975.8	977.0	978.2
45 - 49	944.3	949.2	953.8	957.4	960.0	961.6	963.2
50 - 54	917.0	921.7	927.0	931.6	934.8	936.8	938.8
55 - 59	879.4	882.0	885.5	889.4	893.2	896.3	899.4
60 - 64	829.6	832.5	835.4	838.1	840.0	841.4	842.8
65 - 69	758.0	758.7	759.4	759.9	760.3	760.8	761.3
70 - 74	661.7	661.7	661.8	661.9	661.9	662.0	662.1
75 - 79	529.0	529.0	529.0	529.0	529.0	529.0	529.0
80 - 84	386.8	386.8	386.8	386.8	386.8	386.8	386.8
85 - 89	254.1	254.1	254.1	254.1	254.1	254.1	254.1
90 - 94	123.6	123.6	123.6	123.6	123.6	123.6	123.6

* From P. K. Whelpton's "Forecasts of the Population of the United States 1945-1975" - medium mortality assumptions - 90% of Native White Male Rate + 10% of Non-White Male rate. The rates for the period 1975-1980 were obtained by extrapolation.

** Survival rates for individual ages were obtained by interpolation and were applied to the individual age distributions of veterans without service-connected disabilities to obtain the future number of veterans without service-connected disabilities. A study of the actual mortality experienced by veterans with service-connected disabilities in recent years indicated that these survival rates could also be used for all veterans with service-connected neuropsychiatric and general medical and surgical disabilities and for veterans of service prior to World War II with service-connected tuberculosis. Lower survival rates, reflecting the actual mortality experience, were used for World War II and New Veterans with service-connected tuberculosis.

TABLE 10

ASSUMED RATES OF V. A. ADMISSIONS
TO V. A. AND NON-V. A. HOSPITALS

Attained Ages	Admission Rates that are Applicable to Veterans with Service-Connected Disabilities		
	Tuberculosis*	Neuropsychiatric	General Medical and Surgical
15 - 19	.100	.150	.200
20 - 24	.090	.030	.045
25 - 29	.080	.025	.036
30 - 34	.070	.025	.033
35 - 39	.065	.025	.031
40 - 44	.060	.025	.030
45 - 49	.042	.025	.029
50 - 54	.023	.025	.028
55 - 59	.024	.026	.029
60 - 64	.027	.028	.031
65 - 69	.050	.032	.035
70 - 74	.065	.040	.045
75 - 79	.080	.055	.060
80 - 84	.100	.080	.080
85 - 89	.120	.120	.110
90 - 94	.150	.200	.150
95 & over	.200	.350	.200

* These rates are applicable to veterans of service prior to World War II. Corresponding rates for veterans of World War II and new veterans are shown in Table 10a.

Attained Ages	Admission Rates that are Applicable to Veterans without Service-Connected Disabilities		
	Tuberculosis	Neuropsychiatric	General Medical and Surgical
15 - 19	.00020	.0016	.018
20 - 24	.00040	.0020	.018
25 - 29	.00045	.0023	.018
30 - 34	.00050	.0025	.019
35 - 39	.00055	.0026	.020
40 - 44	.00070	.0027	.021
45 - 49	.00105	.0028	.022
50 - 54	.00140	.0030	.026
55 - 59	.00170	.0033	.035
60 - 64	.00200	.0038	.060
65 - 69	.00225	.0046	.070
70 - 74	.00250	.0058	.080
75 - 79	.00275	.0075	.100
80 - 84	.00300	.0100	.125
85 - 89	.00350	.0150	.150
90 - 94	.00400	.0250	.200
95 & over	.00500	.0500	.500

TABLE 10a

ASSUMED RATES OF V. A. ADMISSIONS
TO V. A. AND NON-V. A. HOSPITALS

Attained Ages	Admission Rates Applicable to World War II and New Veterans with Service-Connected Tuberculosis						
	1950	1955	1960	1965	1970	1975	1980
15 - 19	.500	.400	.310	.230	.160	.100	.100
20 - 24	.320	.250	.190	.150	.120	.090	.090
25 - 29	.190	.150	.120	.100	.090	.080	.080
30 - 34	.185	.140	.110	.090	.080	.070	.070
35 - 39	.200	.140	.100	.080	.070	.065	.065
40 - 44	.230	.150	.100	.075	.065	.060	.060
45 - 49	.270	.180	.110	.060	.045	.042	.042
50 - 54	.310	.210	.120	.060	.030	.023	.023
55 - 59	.350	.250	.150	.080	.040	.024	.024
60 - 64	.400	.300	.200	.100	.050	.027	.027
65 - 69	.450	.350	.250	.150	.075	.050	.050
70 - 74	.500	.400	.300	.200	.100	.065	.065
75 - 79		.440	.340	.240	.140	.080	.080
80 - 84			.380	.280	.180	.100	.100
85 - 89				.320	.220	.120	.120
90 - 94					.260	.150	.150
95 & over						.200	.200

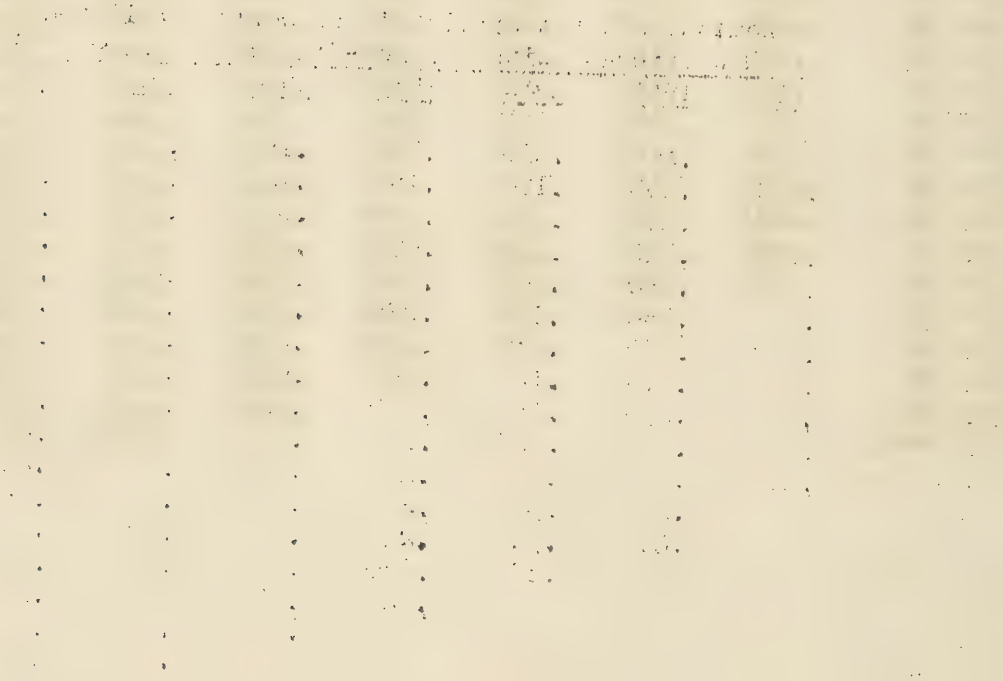


TABLE 11

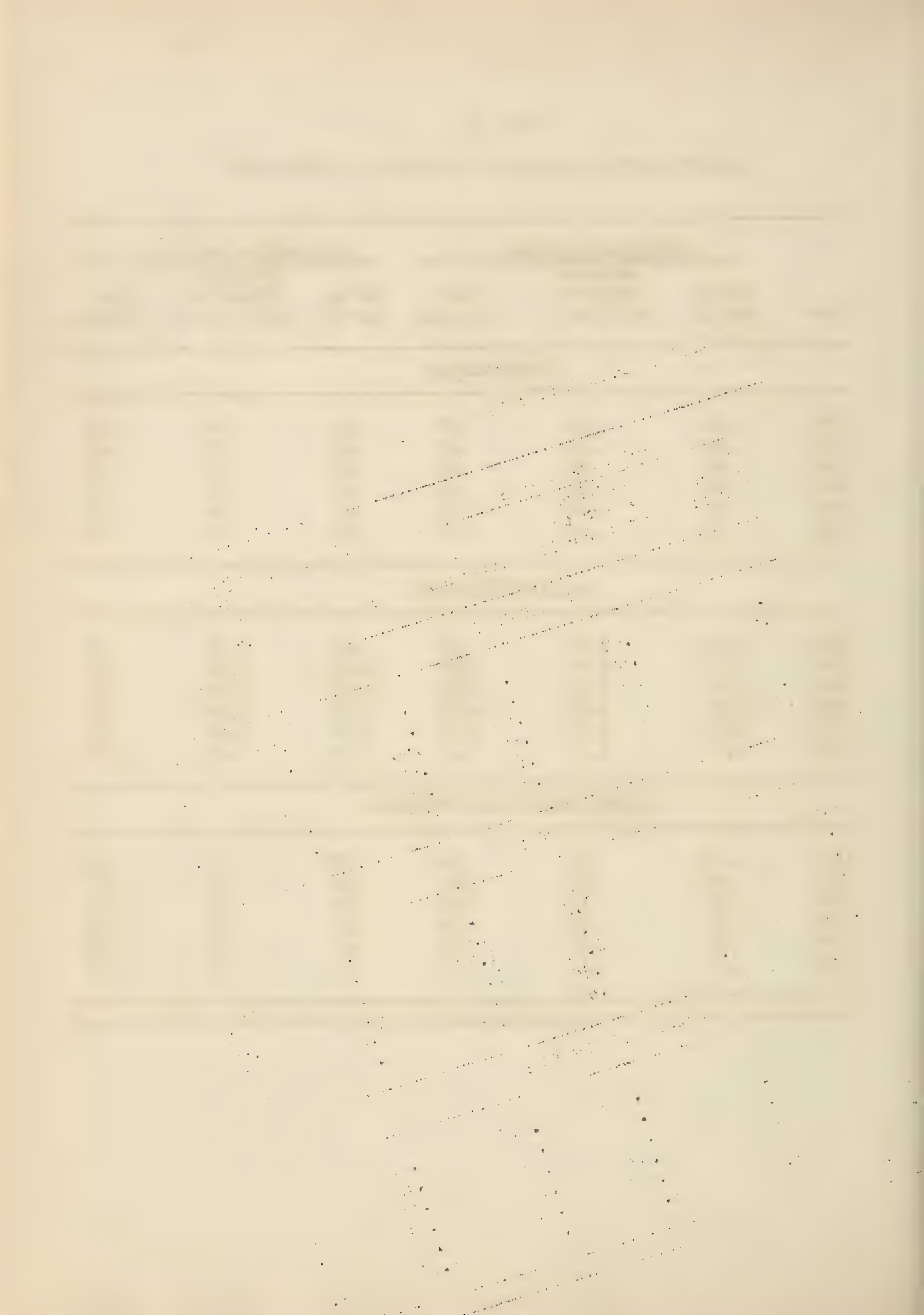
RECENT EXPERIENCE WITH RESPECT TO
RATIOS OF PATIENTS REMAINING TO ADMISSIONS

	Admissions of VA Patients in Fiscal Year 1948	VA Patients Remaining on 6/30/48	Ratio - % Patients Remaining to Admissions
Tuberculosis			
Veterans of World War II			
Service-Connected	8,487	5,402	63.7%
Nonservice-Connected	6,625	3,473	52.4
All Veterans	15,112	8,875	58.7
Veterans of Service Prior to World War II			
Service Connected	1,662	756	45.5
Nonservice-Connected	5,779	3,414	59.1
All Veterans	7,441	4,170	56.0
Neuropsychiatric			
Veterans of World War II			
Service-Connected	15,641	12,704	81.2
Nonservice-Connected	31,531	9,629	30.5
All Veterans	47,172	22,333	47.3
Veterans of Service Prior to World War II			
Service-Connected	1,824	10,774	590.7
Nonservice-Connected	11,958	21,683	181.3
All Veterans	13,782	32,457	235.5
General Medical and Surgical			
Veterans of World War II			
Service-Connected	58,170	4,366	7.5
Nonservice-Connected	258,168	14,598	5.7
All Veterans	316,338	18,964	6.0
Veterans of Service Prior to World War II			
Service-Connected	8,046	870	10.8
Nonservice-Connected	141,513	14,659	10.4
All Veterans	149,559	15,529	10.4

TABLE 12

ASSUMED RATIOS OF PATIENTS REMAINING TO ADMISSIONS

Year	Service-Connected			Nonservice-Connected		
	World War II	Service Prior to World War II	New Veterans	World War II	Service Prior to World War II	New Veterans
			TUBERCULOSIS			
1955	.60	.60	.60	.60	.60	.60
1960	.60	.60	.60	.60	.60	.60
1965	.60	.60	.60	.60	.60	.60
1970	.60	.60	.60	.60	.60	.60
1975	.60	.60	.60	.60	.60	.60
1980	.60	.60	.60	.60	.60	.60
			NEUROPSYCHIATRIC			
1955	2.00	6.00	.90	.65	2.00	.30
1960	3.00	6.00	1.20	1.00	2.00	.40
1965	4.00	6.00	1.50	1.35	2.00	.50
1970	5.00	6.00	1.80	1.65	2.00	.60
1975	6.00	6.00	2.10	2.00	2.00	.70
1980	6.00	6.00	2.40	2.00	2.00	.80
			GENERAL MEDICAL and SURGICAL			
1955	.075	.11	.065	.075	.11	.065
1960	.08	.11	.07	.08	.11	.07
1965	.09	.11	.075	.09	.11	.075
1970	.10	.11	.08	.10	.11	.08
1975	.11	.11	.085	.11	.11	.085
1980	.11	.11	.09	.11	.11	.09



ESTIMATE OF THE NUMBER OF
BEDS REQUIRED TO MEET FUTURE VETERANS
DEMAND FOR HOSPITALIZATION

Veterans with Service-Connected Disabilities

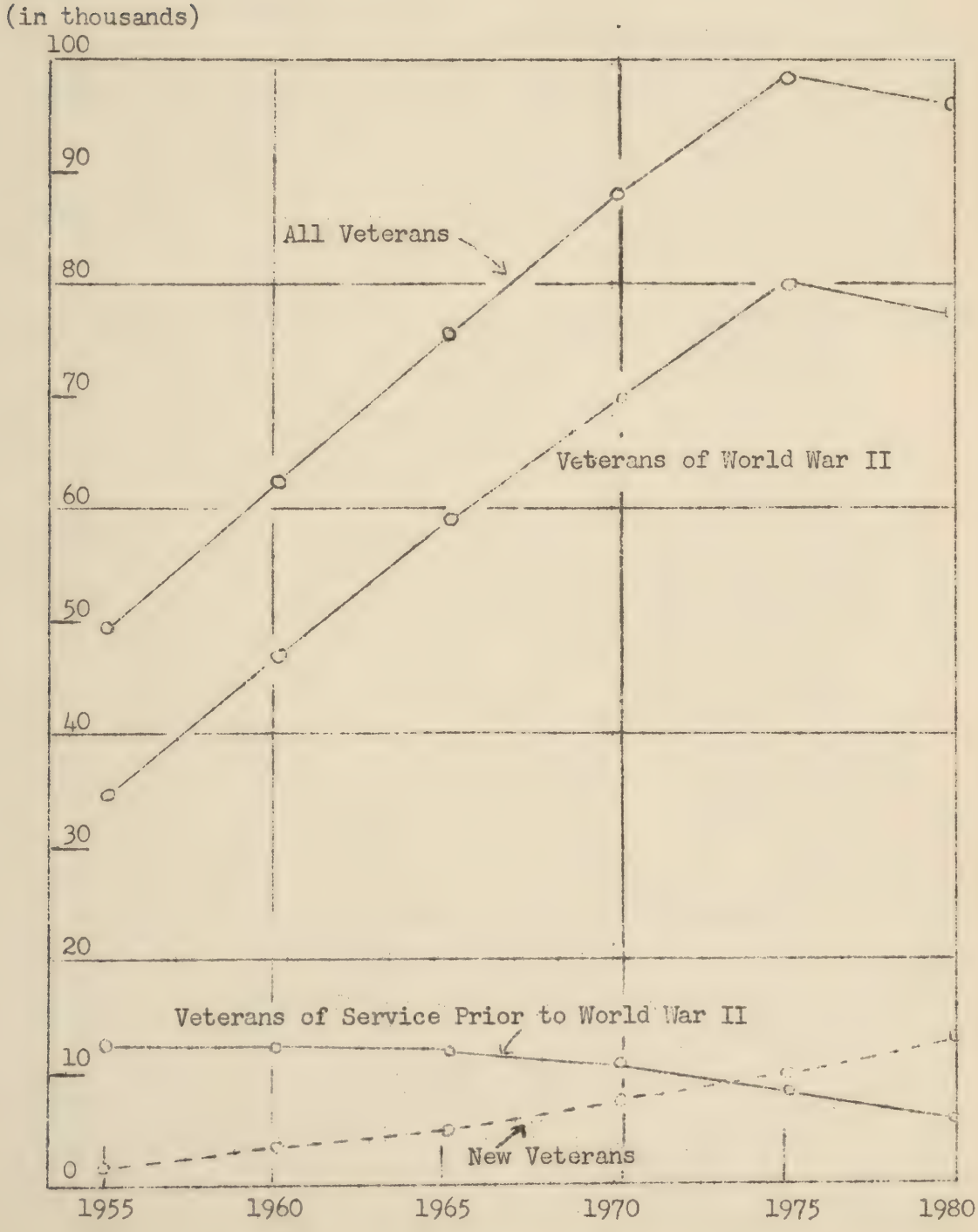


Chart B

ESTIMATE OF THE NUMBER OF BEDS
REQUIRED TO MEET FUTURE VETERANS
DEMAND FOR HOSPITALIZATION

Veterans Without Service-Connected Disabilities

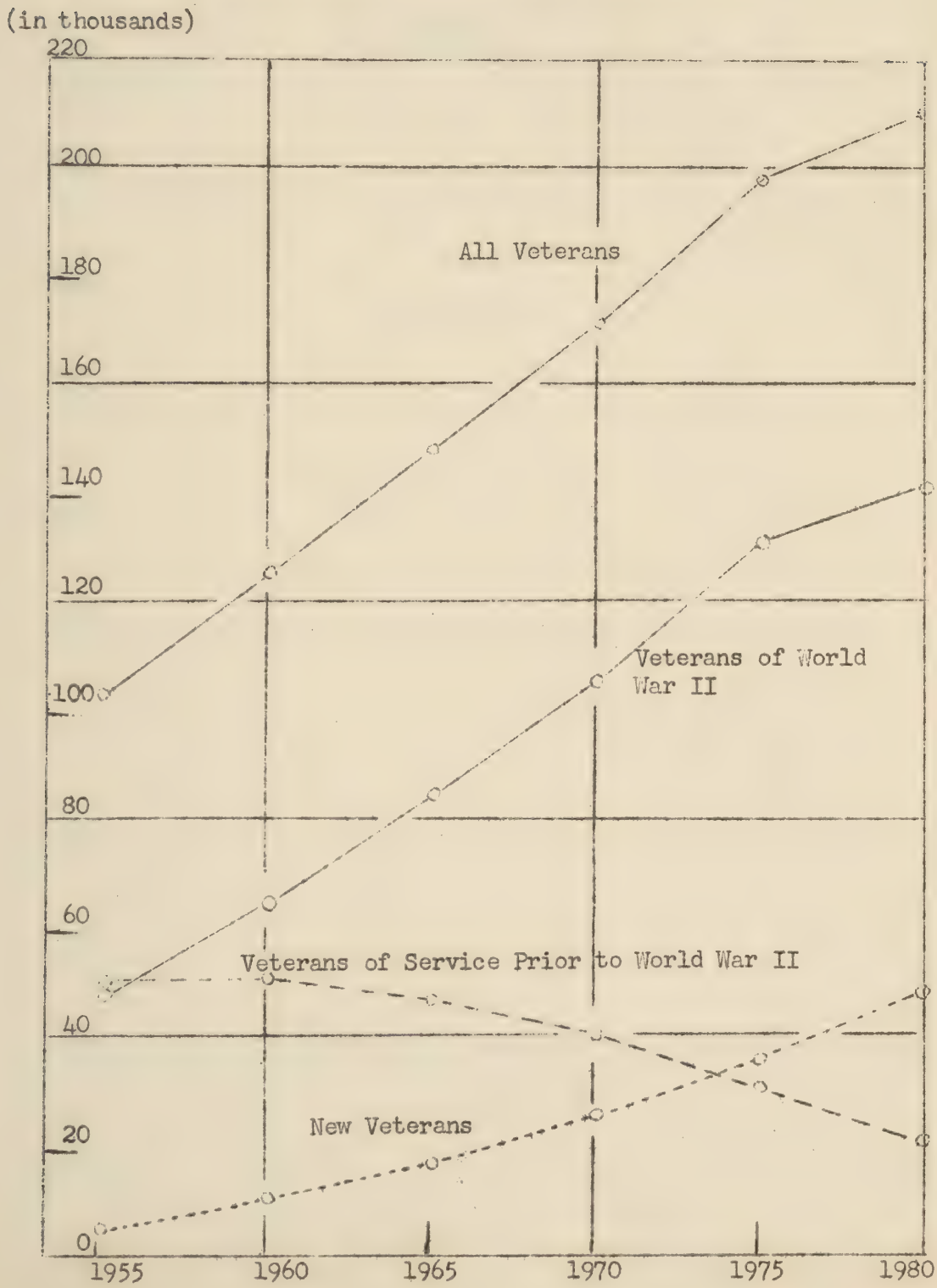


Chart C

ESTIMATE OF THE NUMBER OF BEDS
REQUIRED TO MEET FUTURE VETERANS DEMAND
FOR HOSPITALIZATION

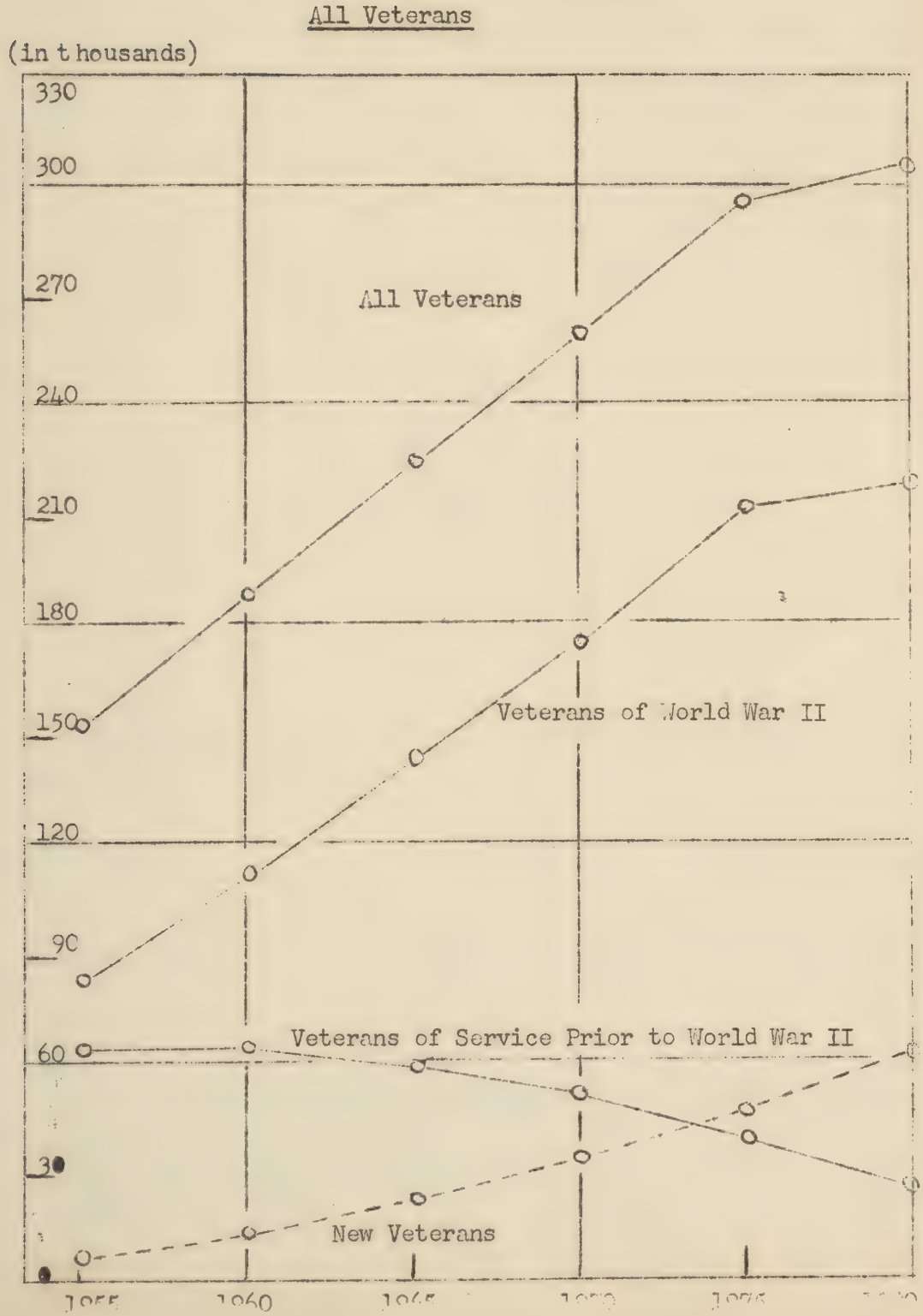
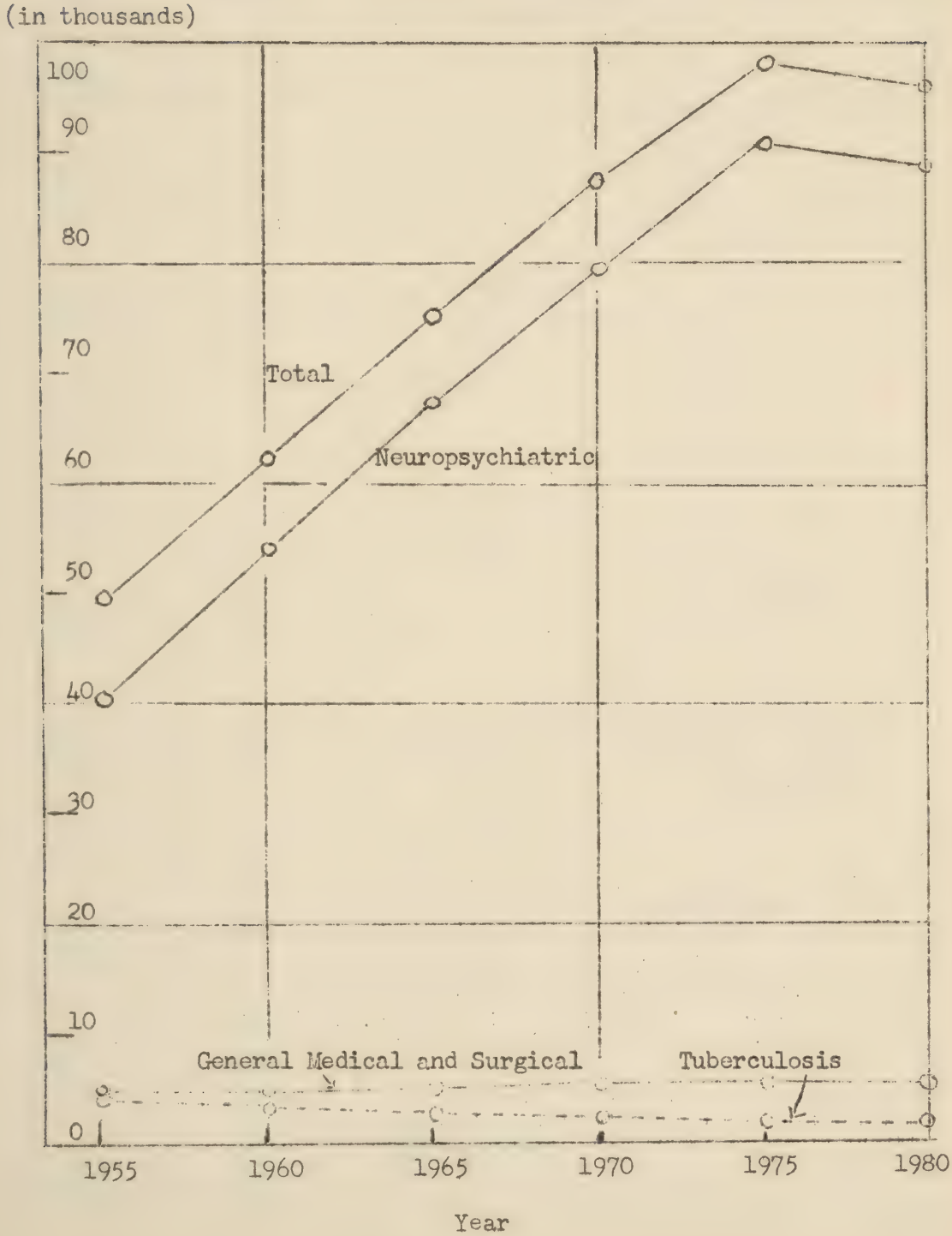


Chart D

ESTIMATE OF THE NUMBER OF BEDS
REQUIRED TO MEET FUTURE VETERANS DEMAND
FOR HOSPITALIZATION

Veterans With Service-Connected Disabilities



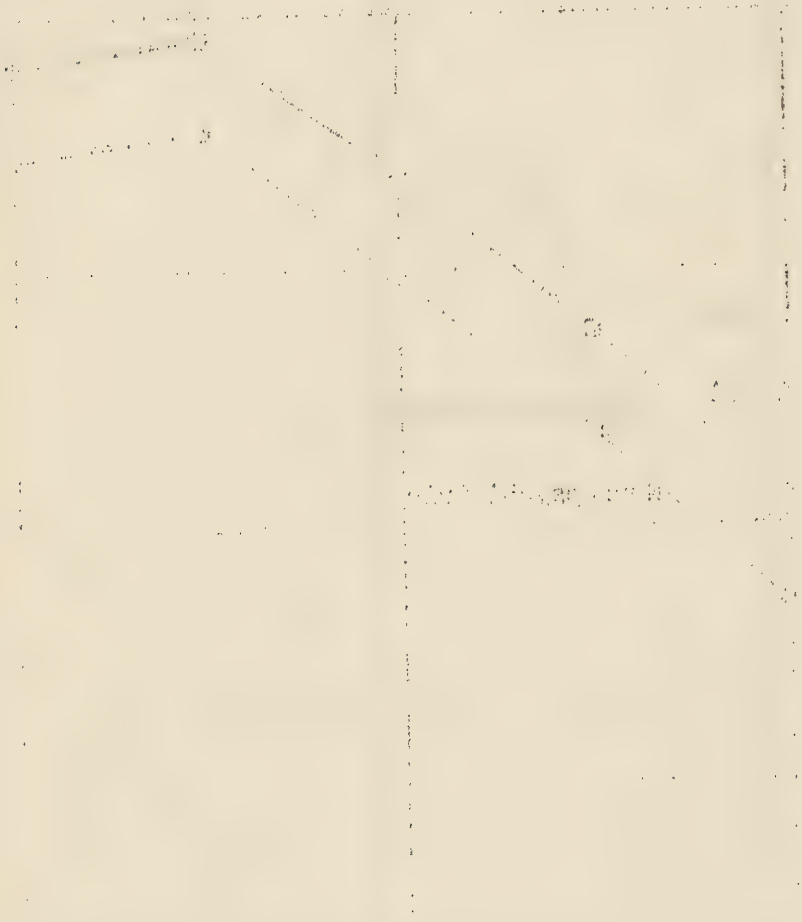
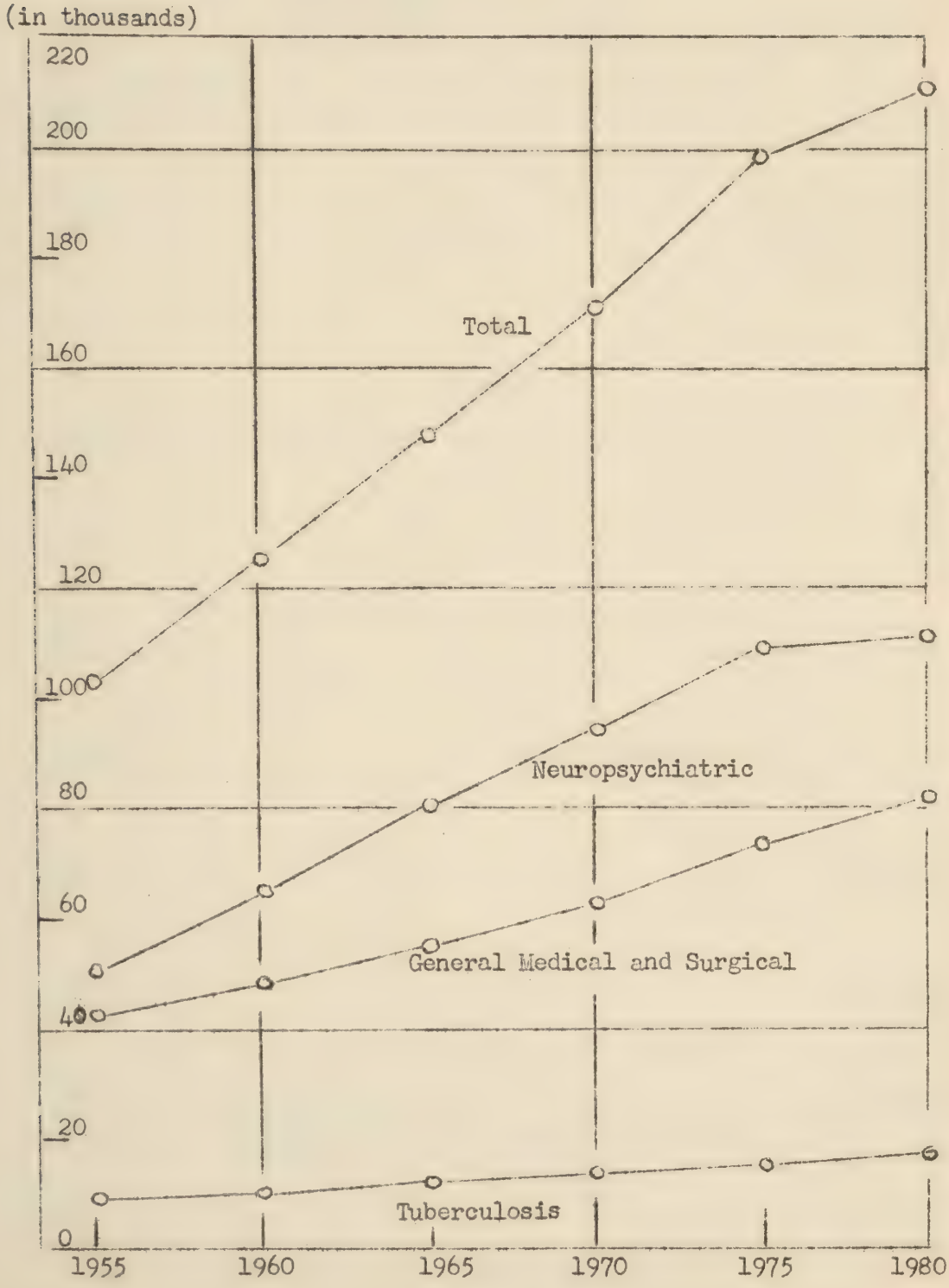


Chart E

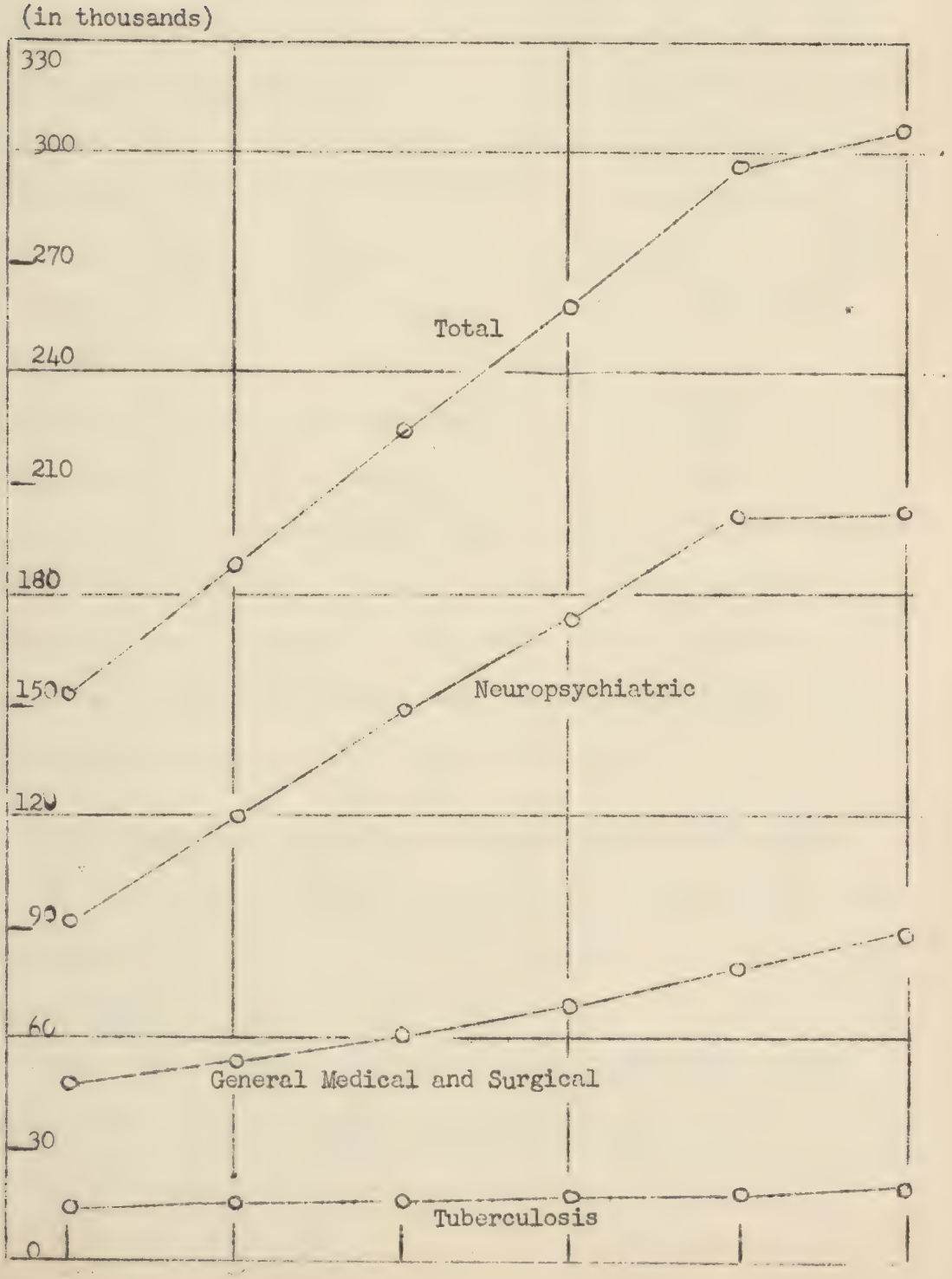
ESTIMATE OF THE NUMBER OF BEDS
REQUIRED TO MEET FUTURE VETERANS DEMAND
FOR HOSPITALIZATION

Veterans Without Service-Connected Disabilities



ESTIMATE OF THE NUMBER OF BEDS
REQUIRED TO MEET FUTURE VETERANS DEMAND
FOR HOSPITALIZATION

All Veterans



PART B

TARGETS FOR PREVENTIVE MEDICINE AND RESEARCH

When public funds are spent on preventive medicine and research programs, such programs may reasonably be expected to bear a close relationship to those causes of death and disability in which the public has the greatest stake. Attention might, therefore, first be given to the more important causes of death and disability during the working years of life, since any increase in the working years of life adds to the country's labor force and a gradual addition to the labor force can be regarded as advancing the country's economy.

This study deals with the man years that might be added to the working years of life through the hypothetical elimination of or reduction in the major causes of mortality and disability during the working years of life. It sheds light on the directions in which preventive medicine and research could be applied to secure tangible benefits for the country's economy. However, the advisability of particular projects designed to eliminate or reduce mortality or disability from specified causes must also be judged by the probability of their success in achieving these objectives.

Effect of eliminating or reducing the major causes of mortality.

The effect on the working years of life of eliminating or reducing deaths from fifteen major causes is indicated in Tables 1, 2, and 3 attached.

The figures in the first line of Table 1 show the average working life, that is, the expectation of life to age 65, for white

males and white females at ages 20, 25, 35, 45, and 55, assuming continuation of the mortality experience that prevailed in the general population in 1945. The remaining figures in Table 1 show the increased length of the average working life that would result from the hypothetical elimination of all deaths from each of the specified causes during the working years of life.

Table 2 indicates the years of life that would be added to the average working life at various ages through the hypothetical elimination of all deaths from the specified causes. It brings out the relative importance of various causes of death in so far as their effect on shortening the years of working life is concerned. Judged by this criterion,

(a) among white males in the working years of life

(1) Accidents are the second most important cause of death being outranked only by heart disease.

(2) Cancer ranks third as a cause of death but tuberculosis is of almost equal importance.

(3) Pneumonia and influenza and suicide are approximately as important as nephritis and intracranial lesions.

(b) among white females in the working years of life

(1) Cancer outranks heart disease as the most important cause of death.

(2) Tuberculosis ranks third and is closely followed by intracranial lesions.

(3) Accidents and nephritis are of about the same importance.

In other words, deaths from the more important conditions that are subject to some control, such as tuberculosis, accidents, pneumonia and influenza, and suicide, are seen to be of about the same importance in the working years of life as deaths from the major degenerative diseases, such as heart disease, intracranial lesions, and nephritis, over which medical science has thus far established relatively little control. Cancer among females may be regarded as at least partly controllable.

The years of life that would be added to the average working life at various ages under the assumption that mortality from each of the specified causes was reduced by some hypothetical percentage would be approximately proportional to the figures shown in Table 2 for complete elimination of that cause of death.

Table 3 considers the total years of life likely to be lived from age 20 to age 65 by all white males and all white females who were alive in 1945, assuming continuation of the mortality experience that prevailed in 1945. It then shows the additional years of working life that would result from the elimination of deaths from each of the fifteen specified causes. It brings out that the hypothetical elimination of the major causes of death in the working years of life would under present conditions result in relatively small additions to the total years of working life. This is because survival rates under present conditions are already quite high, as may be seen from the fact that approximately two out of every three white males and three out of every four white females alive at present would survive to age 65 if current mortality continued. There are, therefore,

definite limits on the increase in the working years of life which could be realized from further reductions in mortality rates.

The years of life that would be added to the total years of life likely to be lived from age 20 to age 65 by all white males and all white females, who were alive in 1945, under the assumption that mortality from each of the specified causes was reduced by some hypothetical percentage would be approximately proportional to the figures shown in Table 3 for complete elimination of that cause of death.

It is essential to bear in mind that not all deaths which might be prevented during the working years of life would result in a clear-cut gain in the labor force. While the prevention of deaths from accidents and acute diseases which leave no disabilities does result in a definite addition to the labor force, the saving of lives who are left permanently disabled not only does not add to the labor force but usually imposes an extra drain on the community's economy. Since deaths from some of the major causes are frequently preceded by long periods of disability, the termination of such disabilities by death could be regarded as beneficial to the community's economy. Deaths of unemployable individuals, individuals who are frequently unemployed, and individuals in overcrowded fields of employment also would not diminish the effective labor force.

Effect of eliminating or reducing the major causes of disability.

The effect on the working years of life of eliminating or reducing the major causes of disability is indicated in Tables 4 and 5.

Specifically, Tables 4 and 5 show the years of working life lost

in 1945 on account of the more important causes of death and disability by white males and by white females respectively. Only the deaths and disabilities which occurred during the working years of life are considered.

The working years of life lost on account of the major causes of disability in 1945 were as follows:

Cause of Disability	Working Years of Life Lost: White Males	White Females
Diseases of the nervous system	332,000	285,000
Respiratory diseases other than tuberculosis	230,000	218,000
Cardiovascular renal conditions	190,000	154,000
Orthopedic conditions	138,000	70,000
Accidents	129,000	103,000
Diseases of digestive system	120,000	151,000
Tuberculosis	94,000	44,000
Arthritis, neuritis, and allied conditions	93,000	95,000

It should be noted that the working years of life lost on account of disability include only the time lost on account of disabling illnesses and do not take account of non-disabling illnesses during the working years of life.

It can be demonstrated from the data in Tables 4 and 5 that the years of working life lost in 1945 by white males on account of all disabilities were equal to about half the years of working life lost on account of deaths due to the fifteen most important causes of death at these ages. Similarly, the years of working life lost in 1945 by white females on account of disability were almost as

great as the years of working life lost on account of deaths due to the fifteen most important causes of death at these ages. To the extent that deaths among the permanently disabled and the unemployable are not a loss to the community, the relative seriousness of disability is greater than indicated by the data in Tables 4 and 5.

The years of working life that would be gained under the assumption that disability from each of the specified causes was reduced by some hypothetical percentage would be approximately proportional to the figures shown in Tables 4 and 5 for complete elimination of that cause of disability.

TABLE 1

EFFECT OF ELIMINATING MORE IMPORTANT CAUSES OF DEATH ON THE AVERAGE LENGTH OF WORKING LIFE*

White Males

	Expectation of Additional Life at Age				
	20	25	35	45	55
Average Length of Working Life*	39.85	35.63	26.59	17.63	9.02
Average Length of Working Life Which Might Be Expected if All Deaths from Each of the Following Causes Were Eliminated					
Heart Diseases	41.05	36.80	27.70	18.51	9.42
Intracranial Diseases	40.03	35.81	26.76	17.77	9.10
Cancer	40.30	36.06	26.98	17.94	9.17
Accidents	40.66	36.26	26.97	17.82	9.08
Tuberculosis	40.29	35.99	26.84	17.76	9.06
Nephritis	40.04	35.80	26.74	17.73	9.07
Pneumonia and Influenza	40.02	35.78	26.71	17.70	9.05
Suicide	40.02	35.78	26.69	17.68	9.04
Diabetes	39.91	35.69	26.64	17.66	9.04
Syphilis	39.91	35.69	26.65	17.67	9.04
Ulcers of Stomach and Duodenum	39.92	35.70	26.65	17.66	9.03
Hernia and Intestinal Obstruction	39.88	35.66	26.62	17.64	9.03
Appendicitis	39.89	35.66	26.62	17.64	9.03
Biliary Calculi, etc.	39.86	35.64	26.61	17.64	9.02
Cirrhosis of the Liver	39.92	35.70	26.66	17.67	9.04

* Expectation of life to age 65 based on 1945 mortality rates in general population

TABLE 1
(Continued)

EFFECT OF ELIMINATING MORE IMPORTANT CAUSES OF DEATH ON THE AVERAGE LENGTH OF WORKING LIFE*

White Females

	Expectation of Additional Life at Age				
	20	25	35	45	55
Average Length of Working Life*	42.02	37.26	27.80	18.51	9.40
Average Length of Working Life Which Might Be Expected if All Deaths from Each of the Following Causes Were Eliminated					
Heart Diseases	42.57	37.79	28.28	18.89	9.59
Intracranial Diseases	42.21	37.45	27.99	18.67	9.47
Cancer	42.67	37.90	28.39	18.94	9.56
Accidents	42.20	37.40	27.89	18.56	9.42
Tuberculosis	42.27	37.46	27.90	18.55	9.41
Nephritis	42.17	37.40	27.93	18.60	9.43
Pneumonia and Influenza	42.11	37.35	27.86	18.55	9.41
Suicide	42.09	37.32	27.84	18.53	9.40
Diabetes	42.11	37.35	27.89	18.58	9.44
Syphilis	42.04	37.28	27.82	18.52	9.40
Ulcers of Stomach and Duodenum	42.03	37.27	27.81	18.52	9.40
Hernia and Intestinal Obstruction	42.06	37.30	27.83	18.53	9.40
Appendicitis	42.04	37.28	27.82	18.52	9.40
Biliary Calculi, etc.	42.05	37.29	27.83	18.53	9.40
Cirrhosis of the Liver	42.06	37.30	27.84	18.53	9.40

* Expectation of life to age 65 based on 1945 mortality rates in general population

TABLE 2

EFFECT OF ELIMINATING MORE IMPORTANT CAUSES OF DEATH
YEARS ADDED TO AVERAGE LENGTH OF WORKING LIFE*

White Males

	Age				
	20	25	35	45	55
Average Length of Working Life*	39.85	35.63	26.59	17.63	9.02
Years of Life Added to Average Length of Working Life if All Deaths from Each of the Following Causes Were Eliminated					
Heart Diseases	1.20	1.17	1.11	.88	.40
Intracranial Diseases	.18	.18	.17	.14	.08
Cancer	.45	.43	.39	.31	.15
Accidents	.81	.63	.38	.19	.06
Tuberculosis	.44	.36	.25	.13	.04
Nephritis	.19	.17	.15	.10	.05
Pneumonia and Influenza	.17	.15	.12	.07	.03
Suicide	.17	.15	.10	.05	.02
Diabetes	.06	.06	.05	.03	.02
Syphilis	.06	.06	.06	.04	.02
Ulcers of Stomach and Duodenum	.07	.07	.06	.03	.01
Hernia and Intestinal Obstruction	.03	.03	.03	.01	.01
Appendicitis	.04	.03	.03	.01	.01
Biliary Calculi, etc.	.01	.01	.02	.01	.00
Cirrhosis of the Liver	.07	.07	.07	.04	.02

* Expectation of life to age 65 based on 1945 mortality rates in general population

TABLE 2
(Continued)

EFFECT OF ELIMINATING MORE IMPORTANT CAUSES OF DEATH
YEARS ADDED TO AVERAGE LENGTH OF WORKING LIFE*

White Females

	Age				
	20	25	35	45	55
Average Length of Working Life*	42.02	37.26	27.80	18.51	9.40
Years of Life Added to Average Length of Working Life if All Deaths from Each of the Following Causes Were Eliminated					
Heart Diseases	.55	.53	.48	.38	.19
Intracranial Diseases	.19	.19	.19	.16	.07
Cancer	.65	.64	.59	.43	.16
Accidents	.18	.14	.09	.05	.02
Tuberculosis	.25	.20	.10	.04	.01
Nephritis	.15	.14	.13	.09	.03
Pneumonia and Influenza	.09	.09	.06	.04	.01
Suicide	.07	.06	.04	.02	.00
Diabetes	.09	.09	.09	.07	.04
Syphilis	.02	.02	.02	.01	.00
Ulcers of Stomach and Duodenum	.01	.01	.01	.01	.00
Hernia and Intestinal Obstruction	.04	.04	.03	.02	.00
Appendicitis	.02	.02	.02	.01	.00
Biliary Calculi, etc.	.03	.03	.03	.02	.00
Cirrhosis of the Liver	.04	.04	.04	.02	.00

* Expectation of life to age 65 based on 1945 mortality rates in general population

TABLE 3

WORKING YEARS OF LIFE ADDED BY
ELIMINATION OF DEATHS FROM SPECIFIED CAUSES

	White Males		White Females	
	Number of Years	Percent of Expected Total Working Years of Life	Number of Years	Percent of Expected Total Working Years of Life
Total Working Years of Life Likely to be Lived by 1945 Population	1,647,000,000	-	1,720,000,000	-
Working Years of Life Added by Elimination of Deaths from Each Cause				
Heart Diseases	58,000,000	3.5	26,000,000	1.5
Accidents	33,500,000	2.0	8,000,000	0.5
Cancer	21,500,000	1.3	30,500,000	1.8
Tuberculosis	17,000,000	1.0	9,000,000	0.5
Intracranial Lesions	9,000,000	0.6	9,500,000	0.6
Nephritis	8,500,000	0.5	7,000,000	0.5
Pneumonia and Influenza	7,500,000	0.5	4,500,000	0.3
Suicide	7,000,000	0.4	2,500,000	0.2
Cirrhosis of the Liver	3,500,000	0.2	1,800,000	0.1
Diabetes	3,000,000	0.2	4,500,000	0.3
Syphilis	3,000,000	0.2	1,000,000	0.1
Ulcer of Stomach and Duodenum	3,000,000	0.2	500,000	0.0
Appendicitis	2,000,000	0.1	1,000,000	0.1
Hernia and Intestinal Obstruction	1,500,000	0.1	1,500,000	0.1
Biliary Calculi and Allied Diseases	500,000	0.0	1,500,000	0.1

* Years lived to age 65 from 20 or attained age if older, assuming 1945 mortality rates in general population

TABLE 4

WORKING YEARS OF LIFE* LOST ON ACCOUNT OF DEATHS AND DISABILITIES WHICH OCCURRED IN 1945 BETWEEN AGES 20 AND 65

WHITE MALES

DEATHS		DISABILITIES	
Cause of Death	Working Years of Life Lost Due to Death*	Cause of Disability	Working Years of Life Lost Due to Disability**
Heart Diseases	983,000	Heart Diseases	118,000
Intracranial Lesions	148,000	Cerebral Hemmorhage	11,000
Nephritis	151,000	Nephritis	18,000
		Arteriosclerosis	35,000
		Other Circulatory Diseases	8,000
		Arthritis (Including Acute Rheumatic Fever)	81,000
		Neuritis and Lumbago	12,000
Accidents	783,000	Accidents - Other than shown below	129,000
		Blindness - Total	26,000
		Orthopedic Impairments	138,000
Cancer	363,000	Cancer	43,000
Tuberculosis - All forms	332,000	Tuberculosis - All forms	94,000
Pneumonia and Influenza	141,000	Respiratory Diseases (1)	230,000
Suicide	133,000	Diseases of Nervous System	332,000
Cirrhosis of Liver, Biliary Calculi, etc.	73,000	Diseases of Liver and Gall Bladder	13,000

TABLE 4
(Continued)

WORKING YEARS OF LIFE* LOST ON ACCOUNT OF DEATHS AND DISABILITIES
WHICH OCCURRED IN 1945 BETWEEN AGES 20 AND 65

WHITE MALES

DEATHS		DISABILITIES	
Cause of Death	Working Years of Life Lost Due to Death*	Cause of Disability	Working Years of Life Lost Due to Disability**
Ulcer of Stomach and Duodenum	57,000	Ulcer of Stomach and Duodenum	32,000
Appendicitis	32,000	Appendicitis	20,000
		Other Diseases of Digestive System	55,000
Syphilis	53,000	Syphilis	3,000
Diabetes	51,000	Diabetes	14,000
Hernia and Intestinal Obstruction	25,000	Hernia and Intestinal Obstruction	29,000
		Other Causes	163,000
		All Causes	1,604,000

* Years that would have been lived by those who died in 1945 between ages 20 and 65 from age at death to age 65, assuming 1945 mortality rates in general population.

** Years of disability lost in 1945 by those disabled between ages 20 and 65; estimated on the basis of (a) National Health Survey data, adjusted for illnesses of less than seven days duration and under enumeration, and (b) special studies with respect to respiratory diseases, mental conditions, tuberculosis, cancer and blindness.

(1) Respiratory diseases include pneumonia, influenza, grippe, bronchitis, colds, sinusitis, asthma, hay fever, tonsilitis, tonsillectomy and other respiratory diseases.

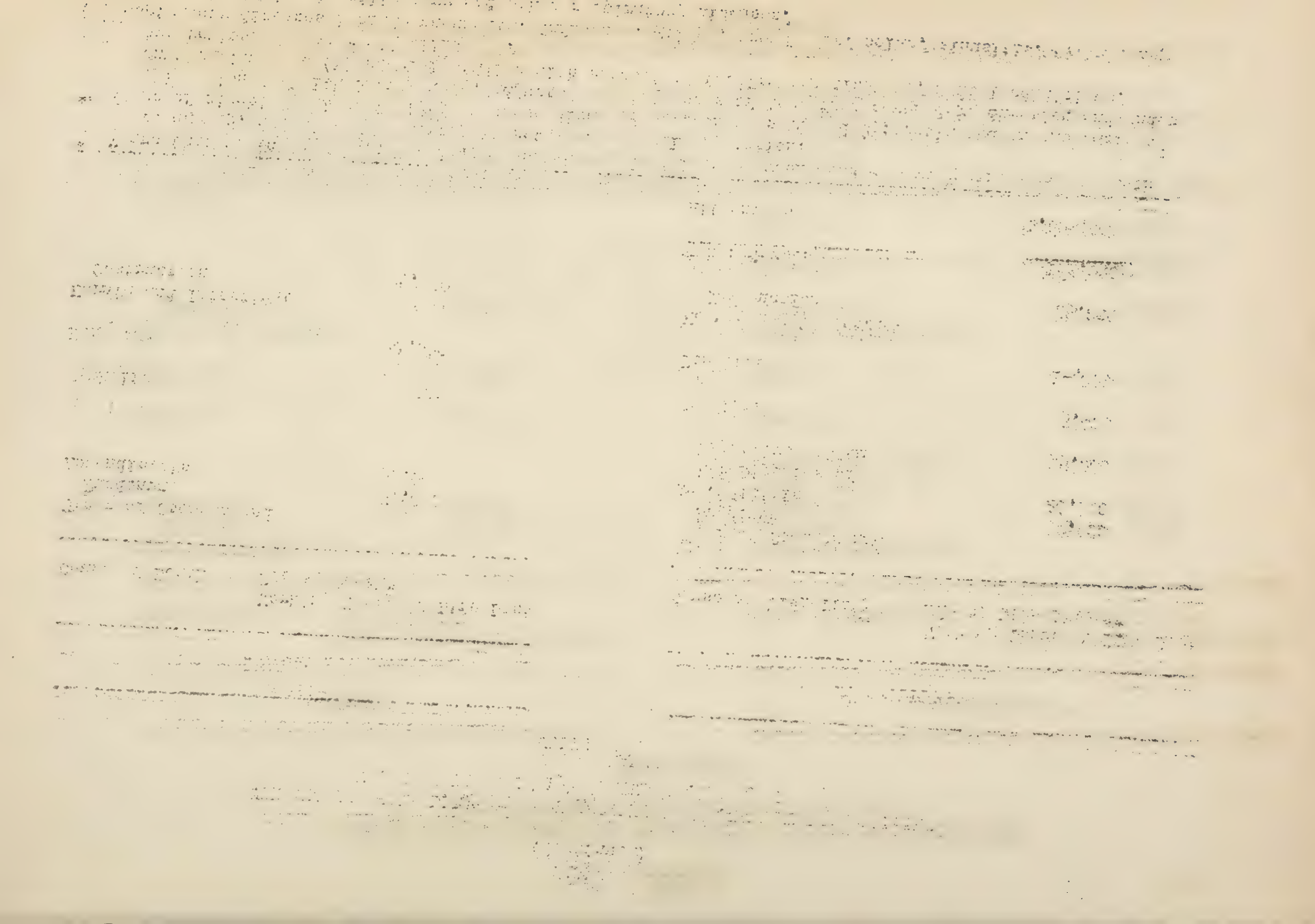


TABLE 5

WORKING YEARS OF LIFE* LOST ON ACCOUNT OF DEATHS AND DISABILITIES WHICH OCCURRED IN 1945 BETWEEN AGES 20 AND 65

WHITE FEMALES

DEATHS		DISABILITIES	
Cause of Death	Working Years of Life Lost Due to Death*	Cause of Disability	Working Years of Life Lost Due to Disability**
Heart Diseases	448,000	Heart Diseases	81,000
Intracranial Lesions	152,000	Cerebral Hemorrhage	6,000
Nephritis	128,000	Nephritis	22,000
		Arteriosclerosis	41,000
		Other Circulatory Diseases	4,000
		Arthritis (Including Acute Rheumatic Fever)	80,000
		Neuritis and Lumbago	15,000
Accidents	159,000	Accidents - Other than shown below	103,000
		Blindness - Total	24,000
		Orthopedic Impairments	70,000
Cancer	541,000	Cancer	66,000
Tuberculosis - All forms	243,000	Tuberculosis - All forms	44,000
Pneumonia and Influenza	86,000	Respiratory Diseases (1)	218,000
Suicide	66,000	Diseases of Nervous System	285,000
Cirrhosis of Liver, Biliary Calculi, etc.	64,000	Diseases of Liver and Gall Bladder	44,000

TABLE 5
(Continued)

WORKING YEARS OF LIFE* LOST ON ACCOUNT OF DEATHS AND DISABILITIES
WHICH OCCURRED IN 1945 BETWEEN AGES 20 AND 65

WHITE FEMALES

DEATHS		DISABILITIES	
Cause of Death	Working Years of Life Lost Due to Death*	Cause of Disability	Working Years of Life Lost Due to Disability**
Ulcer of Stomach and Duodenum	9,000	Ulcer of Stomach and Duodenum	8,000
Appendicitis	23,000	Appendicitis	36,000
		Other Diseases of Digestive System	63,000
Syphilis	22,000	Syphilis	2,000
Diabetes	76,000	Diabetes	28,000
Hernia and Intestinal Obstruction	35,000	Hernia and Intestinal Obstruction	6,000
		Other Causes (2)	374,000
		All Causes	1,620,000

* Years that would have been lived by those who died in 1945 between ages 20 and 65 from age at death to age 65, assuming 1945 mortality rates in general population.

** Years of disability lost in 1945 by those disabled between ages 20 and 65; estimated on the basis of (a) National Health Survey data, adjusted for illnesses of less than seven days duration and under enumeration, and (b) special studies with respect to respiratory diseases, mental conditions, tuberculosis, cancer and blindness.

(1) Respiratory diseases include pneumonia, influenza, grippe, bronchitis, colds, sinusitis, asthma, hay fever, tonsilitis, tonsillectomy and other respiratory diseases.

(2) The other causes figure for females includes 119,000 years lost due to disability from live births and 95,000 years lost due to disability from other female diseases.

PART C

HOSPITAL-MEDICAL INSURANCE FOR DEPENDENTS OF THE PERSONNEL OF THE ARMED FORCES AND OF FEDERAL EMPLOYEES

Summary

1. It appears feasible to provide some standard form of hospital-medical insurance for the wives and dependent children of the personnel of the armed forces, the Coast Guard, Coast and Geodetic Survey, and commissioned officers of the Public Health Service in most localities in the United States.

2. Such insurance does not appear practicable for dependents of federal employees other than those mentioned above, since in their case hospital-medical care has usually been made available in emergencies only or under circumstances where adequate medical care could not otherwise be obtained. Furthermore, in these cases, a substantial part of the cost incurred by the federal government for the care of dependents has been paid by the individuals responsible for the dependents.

3. A typical form of hospital-medical insurance covering the wives and dependent children of enlisted personnel of the armed forces and of the relatively low paid federal employees mentioned under 1 above would provide the following benefits:

(a) Full cost of hospitalization for 21 days and half the cost of hospitalization for 180 days following,

(b) Full cost of surgery, including that involved in maternity cases,

(c) Full cost of medical care in hospital for a limited number of visits, such as two visits per day the first three days of hospitalization, one visit per day for the 18 days following, and one visit every two days thereafter,

(d) Full cost of medical care obtained at home or at physician's office, with a limitation on the number of visits per illness and with specified allowances for specialists' fees.

In most cases the individual would have free choice of hospitals and physicians. In the case of officer personnel and the higher paid federal employees mentioned under 1 above, this type of insurance would provide the same hospitalization benefits, but would allow only the scheduled amounts for surgery, the scheduled fees for doctors' visits to hospital, or for home and office visits, and the scheduled fees for specialists. The excess, if any, of the amount charged by a surgeon, doctor, or specialist over the scheduled fee would have to be paid by the individual responsible for the dependent.

4. . This type of insurance could not, of course, be provided in those localities where physicians and hospital facilities are not available to render the services indicated. Thus, it could not be provided outside of the United States. The insurance where available would carry certain limitations: it would not cover dependent parents or other collateral dependents, would not cover chronic diseases, would not as a rule provide for an unlimited number of home or office visits and would allow only reasonable amounts as fees for surgery, visits, or consultations.

5. The number of wives and dependent children of the personnel of the armed forces, Coast Guard, Coast and Geodetic Survey, and commissioned officers of the Public Health Service who reside in the United States is estimated at 1,050,000. In recent years such dependents have added from 5,000 to 6,000 patients to the hospital load of the armed forces and the Public Health Service. To provide hospital-medical coverage for them along the lines outlined under 3 above would cost about $35,000,000 a year (or approximately $2,900,000 monthly). This may be somewhat more than it now costs the government to provide medical care for them.

Present situation with regard to the medical care of dependents of the personnel of the armed forces and of federal employees

Table 1 appended summarizes the principal facts regarding dependents of the personnel of the armed forces and of federal employees currently eligible for medical care from the federal government.

The only major problem presented is that of dependents of the personnel of the armed forces, the Coast Guard, the Coast and Geodetic Survey, and commissioned personnel of the Public Health Service. These dependents have long been given both inpatient and outpatient service, at a nominal charge for hospitalization (such as from $1.30 to $1.75 per day). They currently number about 1,400,000, of whom some 250,000 are collateral dependents, that is, dependents other than wives or children. Of the wives and dependent children, perhaps as many as 100,000 are currently located outside the continental United States.

The dependents of employees of the Veterans Administration have been given hospitalization care in emergencies only, and medical and

hospital care only when residing at installations where such service is difficult to obtain; they have been charged $9.75 per day for hospitalization and $2 per outpatient visit. The dependents of employees of the Indian Service and of federal agencies remote from adequate medical service are relatively few in number and have been charged for hospitalization on the basis of actual average costs. Since private medical facilities are not available in many of the localities involved and since the number of such patients is relatively small, there is little reason to seek alternate arrangements for their medical care.

Available hospital-medical care coverage

It appears feasible to provide hospital, surgical, medical care in hospital, and home and office medical care along the standard lines developed by Blue Cross and Blue Shield plans for wives and dependent children of personnel of the armed forces, the Coast Guard, the Coast and Geodetic Survey, and commissioned personnel of the Public Health Service. Some precedent for such coverage exists in the arrangements which a number of Blue Cross and Blue Shield plans made to continue the family coverage for families of men who entered the armed forces during the war. The premiums charged in such cases were usually calculated by deducting from the family premium the premium for a single individual. Even though experience showed that this premium basis was not adequate, it is believed that somewhat higher premium rates would be actuarially sound.

The types of benefits which could be provided under a standard form of hospital-medical insurance are set forth in Table 2. The principal types of benefits provided are hospital service, (A), hospital and surgical service, (B), hospital, surgical, and medical service in hospital, (C), and hospital, surgical, medical care in hospital, and medical care at home or office service, (D).

For the wives and dependent children of enlisted personnel (and for the dependents of the relatively low paid federal employees) it would probably be possible to obtain for the premiums charged all of surgery provided under B, all of the medical care in hospital provided under C, and all of the home and office medical care provided under D. In the case of officer personnel (and the more highly paid federal employees), only the scheduled amounts allowed for surgery, the scheduled fees per home or office visit, and the scheduled specialists' fees would be paid under the insurance plan and the individual responsible for the dependents would have to bear the charges in excess of the scheduled amounts. This does not appear unreasonable in view of the fact that nominal subsistence charges have been made for hospitalization services provided by the federal government and that under the hospital-medical care insurance provided the individual would as a rule have the right to choose the surgeon or physician for his dependents.

It should be noted that the insurance plans made available by the Blue Cross, Blue Shield, and other private insurance agencies carry certain limitations in coverage. Such limitations appear necessary to

assure the financial soundness of the plans. Limitations on the number of visits per illness have been found desirable to discourage unnecessary calls on physicians. Limitations on the amount of fees allowed are needed to bring the cost of the insurance down to a reasonable level. In fact, it may be said that insurance plans are practicable only where the cost of the services to be rendered can be predicted with some degree of accuracy and this requires limitations in coverage to forestall unreasonable demands for services as well as predetermined service costs.

It is doubtful whether hospital medical coverage along the above lines could be obtained for dependent parents, or other collateral dependents. It has been estimated that almost 20 percent of all Army personnel have such collateral dependents.

Cost of hospital-medical care for wives and dependent children of the personnel of the armed forces, Coast Guard, Coast and Geodetic Survey, and commissioned personnel of the Public Health Service

From the experience of certain Blue Cross and Blue Shield plans with dependents of men in the armed forces, it is believed that the coverage outlined in the first three columns of Table 2 could be obtained at the premium rates shown in column 4 of Table 2. These premium rates might vary somewhat in different localities, but the average rate should be close to that shown in column 4 of Table 2.

On this basis, the aggregate premium for some 1,050,000 wives and dependent children of the personnel of the armed forces, Coast Guard, Coast and Geodetic Survey, and commissioned personnel of the

Public Health Service would amount to about $2,900,000 monthly or nearly $35,000,000 annually.

While this may not be very much more than the cost currently incurred by the government for the care of these dependents on a pro rata basis, it would be substantially in excess of the differential cost incurred by the government when government hospital facilities are not fully utilized.

TABLE 1

Medical Services Provided for Dependents of Federal Employees

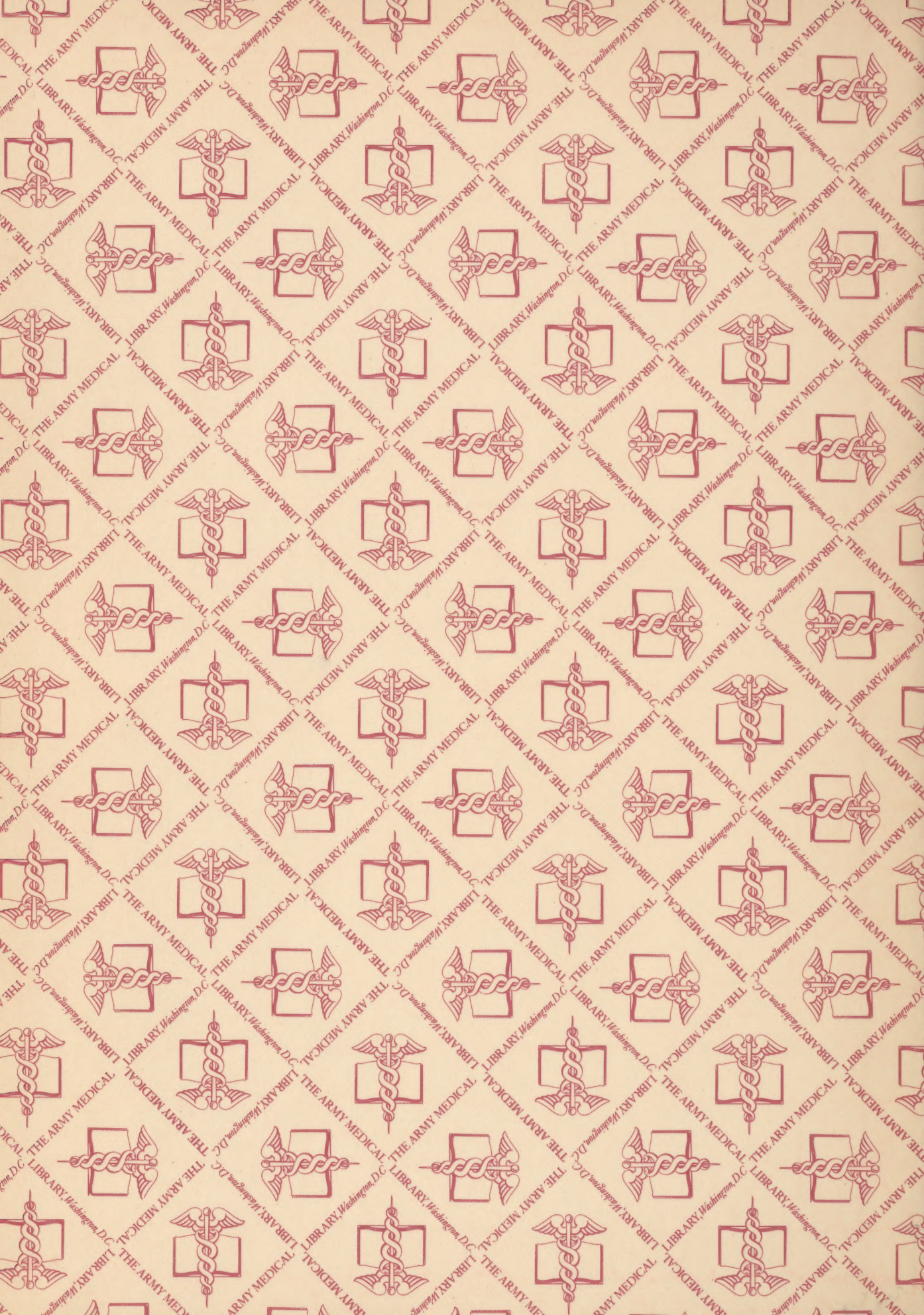
Dependents of the Personnel of	Definition of Dependent	Estimated Number Eligible	Number Recently Receiving Care	Type of Care Provided	Conditions	Charges
1. Army and Air Force	Wives Dependent husbands Dependent children Other families residing in home not legally dependent upon an individual not in military service	About 900,000	About 3,000	Inpatient and outpatient service	When suitable facilities for hospitalization are available	Charge for subsistence only, based on ration rate plus 25 percent. In 1948 between $1.30 and $1.50 per patient day
2. Navy Active Retired Fleet Reserve	Lawful wife Unmarried dependent children under 21 Dependent mother or father Widows - but not dependent children of widows	About 450,000	About 1,000	Inpatient and outpatient service	Limited to acute medical and surgical conditions, exclusive of nervous, mental, or contagious diseases. Also excludes domiciliary care	Charge fixed by President. Now $1.75 per patient day.
3. Coast Guard	Same as Navy except that widows are not covered	33,804	2,204	Inpatient and outpatient service	PHS Medical Relief Stations, hospitalized if suitable accommodations available	$1.75 per day for hospitalization. Outpatient treatment free
4. Coast and Geodetic Survey	Same as Navy except that widows are not covered	863	78	Inpatient and outpatient service	PHS Medical Relief Stations, hospitalized if suitable accomodations available	$1.75 per day for hospitalization. Outpatient treatment free
5. Commissioned Public Health Service Personnel	Same as Navy except that widows are not covered	3,969	515	Inpatient and outpatient service	PHS Medical Relief Stations, hospitalized if suitable accomodations available	$1.75 per day for hospitalization. Outpatient treatment free
6. Veterans Administration	Members of employee's family			Hospitalization and outpatient treatment	Hospitalization in emergency or when residing at installation and unable to obtain treatment elsewhere	$9.75 per day for hospitalization. $2.00 per outpatient treatment
7. Indian Services	Dependent members of employee's family			Hospitalization only		Charged at average cost per patient per day
8. Federal Agencies remote from adequate facilities: Atomic Energy Commission, TVA, Hoover Dam	Dependents of employees			Hospitalization and medical care		Rate fixed on basis of cost

Table 2

HOSPITAL MEDICAL SERVICES CUSTOMARILY PROVIDED AND PREMIUM RATES THEREFOR

Type of Coverage	Services or Costs Allowed	Services or Cost Not Included	Monthly Premium Rate
A. Hospital Service	Full cost of 21 days hospitalization in semi-private room followed by		$1.50 for wife only $2.00 for wife and children
	50% of the cost of 180 days of hospitalization in semi-private room	50% of cost of hospitalization after 21 days	
	Hospitalization includes bed and board, general nursing, drugs, X-ray exams, lab., exams, physical therapy, oxygen, sera, operating room, anesthesia by hospital employees.	Diagnostic procedures and certain expensive therapies (X-ray, radium, etc.)	
	Maternity care included		
B. Hospital and Surgical Service	Hospital service as provided under A		$2.20 for wife only $3.50 for wife and Children
	Surgical service allows fees from $50 to $225 according to type of operation and includes surgery necessary in maternity cases		
	For lower income groups it is likely that full cost of all surgery would be covered by above fees. For higher income groups the difference between fees actually charged and fees allowed under plan would have to be borne by individuals responsible for dependents.	Cost of surgery in excess of scheduled fees	

Type of Coverage	Service or Costs Allowed	Services or Cost Not Included	Monthly Premium Rate
C. Hospital and Medical Service, Medical Care in Hospital	Hospital and medical service as provided under B above $6 per day for doctors' visits first three days of hospitalization $3 per day for doctors' visits for 18 days following $10 per week for doctors' visits thereafter $10 allowance for one bedside consultation by specialist For lower income groups, it is likely that full cost of doctors' visits would be covered by above fees For higher income groups the difference between fees actually charged and fees allowed under plan would have to be borne by individuals responsible for dependents	Cost of medical care in hospital in excess of scheduled fees	$2.50 for wife only $4.00 for wife and children
D. Hospital and Medical Service, Medical Care in Hospital, Home and Office Medical Care	Hospital and medical service and medical care in hospital as provided under C above $2 per office visit $3 per home visit with a limit of 20 visits per illness (including maternity care) 50% of amounts scheduled for specialists' fees For lower income groups, it is likely that full cost of doctors' visits would be covered by above fees For higher income groups the difference between fees actually charged and fees allowed under plan would have to be borne by individuals responsible for dependents	Cost of home and office visits and specialists' fees in excess of scheduled fees	$4.10 for wife only $6.50 for wife and children


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